A Clinical Lecture
ON
TYPHOID FEVER AND ITS MANAGEMENT.

Delivered at the Northern Hospital, Liverpool,

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GENTLEMEN,—The incidence of typhoid fever in this city during last autumn and the winter months has been remarkable, at least so far as we have observed the disease, for the proportionately large number of severe cases; but, as frequently happens at the end of an epidemic, our recent cases have been comparatively mild. The epidemic is now practically at an end for this season, so we are in a fair position for reviewing our past work, and perhaps for drawing a few practical lessons. I have got nothing really new to tell you which you will not find in my book on "The Treatment of Typhoid Fever," but there are several points in the management of this disease which I wish to emphasise. Perhaps, in the first place, I should apologise for my obstinacy in continuing to use the term "typhoid fever," after all the good advice which I have recently received on the subject. Those of my critics, and more especially my friend Dr. B. W. Richardson, who have thought fit to deal with the nomenclature of the disease prefer the title "enteric fever." My objection to this term is that thus the lesions of the bowel are raised to the dignity of the disease, instead of remaining, as they undoubtedly are, the effects of the disease. No doubt the affection of the agminate and solitary glands of the small intestine, so far as we at present know, are pathognomonic of this disease; but these, like the other prominent lesions and complications, are due to specific bacilli with their generated ptomaines. Whether the disease be invariably due to the bacillus typhosus of Eberth I know not, but I feel confident that no single ptomaine would give rise to the very varied toxic symptoms which characterise different cases of the disease. In the majority of cases the intestinal symptoms are not more prominent or more grave than those of the respiratory and nervous systems. So far as the bowel is concerned, the only complications which we have to dread are hæmorrhage and perforation, and at least the latter of these should, in my opinion, in well-managed cases, be to a great extent obvinted by the prevention of any distension of the bowel. Hæmorrhage is often a very serious complication, and one to which we will devote a little attention further on. As our mortality is very low we have very few opportunities of viewing the enteric lesions, and so our study of the disease must proceed more from a clinical than a pathological standpoint. I have no special predilection for the title "typhoid fever," but in the present state of our knowledge I think it is as good as any other. I believe it was the late Viscount Sherbrooke, better known as Mr. Robert Lowe, who said that it did not much matter what a man said provided you understood what he meant. That is very much my position with respect to the term "typhoid fever." I do not believe there is a single medical man in this kingdom who does not know what is meant by typhoid fever, or who would confound the words "typhus" and "typhoid," but there are very many who in a large number of cases would find it difficult to diagnose the one disease from the other. I have known these two diseases mistaken for one another by most competent observers who had had large experience in both. In some of our cases the nervous symptoms were much more like those of typhus fever than of typhoid fever, and the effluvium from the breath closely resembled that of malignant typhus fever.

Diagnosis.—The question of diagnosis is frequently in the early stages of this disease admittedly difficult, and in the class of patients who reach the hospitals it has often to be made under very unfavourable circumstances. In my experience other acute diseases are more frequently mistaken for typhoid fever than the reverse. This perhaps arises from the fact that the diagnosis of typhoid fever is frequently arrived at by a process of exclusion, and this process is in a certain proportion of cases not carried out with sufficient care. I have met with the case of an old woman of nearly eighty without any pyrexia whatever who was reported to have been suffering from typhoid fever. This rule will not invariably hold good, as I have known the temperature in a moderately severe case of typhoid fever to run a subnormal course throughout, and Dr. Broadbent has recorded a case with a subnormal temperature which ran a natural course after a good dose of calomel. Typhus fever is usually recognised by the earlier appearance and more persistent character of the eruption, which consists of dark brownish-red spots accompanied with a dusky mottling. The head symptoms are pronounced, sickness and vomiting are absent except occasionally at the commencement, and there is no diarrhœa or abdominal tenderness.

Meningitis.—We have recently received the following cases with the diagnosis of typhoid fever. A severe case of basilar meningitis, a case of meningitis of the vertex complicating pneumonia of the upper lobe, a case of tubercular meningitis, and a case of septic meningitis arising from disease of the middle ear. The first two cases recovered and the last two died soon after admission. The first case had been under treatment for a fortnight as one of typhoid fever, and on reception he was seen by my colleague, Mr. Damer Harrisson, who at once recognised the true nature of the disease. This case exemplified in a very striking manner the fact, which I previously pointed out, that in meningitis before effusion has taken place the knee-jerks are exaggerated and there is frequently well-marked ankle clonus. There was pronounced hyperæsthesia, his head was retracted and there was over-action or tonic contraction of all the flexor muscles of his limbs, so that his joints were acutely flexed. Hyperæsthesia, or morbid sensitiveness, is often an early but not always a pronounced or obtrusive symptom, especially in the earlier stages of basilar meningitis, when the inflammation is confined to the base. In such cases the patient is perfectly intelligent, and if there be any delirium it is when he is asleep or dosing. He is restless, moves about from side to side, stretches his limbs, raises his hands above his head, feels generally uncomfortable without being able to localise his sensations, picks his lips, frequently blows his nose and tries to get rid of the irritation of a little dried mucus, which in a case of typhoid fever or pneumonia would be unfelt or unnoticed. He cannot concentrate his attention for any length of time, and may readily forget that the thermometer is in the axilla. He may speak and reason quite rationally, but he is excitable. He may get out of bed and resist any interference with his doing so, he may roam about the house in a purposeless manner, and when he has cooled and exhausted himself he will return to bed.

In the early stages of other cases where the inflammatory process is strictly limited to the base the nervous excitability may be chiefly marked by an increase in the deep reflexes. The patient may be quiet and drowsy, and not appear to be in any way over-sensitive when handled. In such cases there is an early appearance of muscular rigidity or tonic muscular contraction, and when the flexors gain the mastery the joints become acutely flexed and the patient lies curled up in bed. The upper limbs may be acutely flexed whilst the lower are rigidly extended; this, I think, occurs when the cerebellum is involved. The knee-jerks are first exaggerated and then ankle clonus and even knee clonus become well marked. The triceps reaction at the elbow is usually easily elicited, and a tap on the muscles induces fibrillar contraction. All these phenomena become more pronounced as the disease advances. In most cases of basilar meningitis the head is rigidly retracted, though in some cases I have seen this symptom absent throughout the whole progress of the disease. The classical symptoms, headache and vomiting, may not attract special attention, and the absence or slight development of these symptoms accounts, in no small measure, for the mistakes in the early recognition of the disease. In meningitis of the vertex the cerebral phenomena are early developed, the hyperæsthesia becomes a prominent symptom, the headache is severe, delirium—perhaps of a lively type—is usually present, the patient is restless and excitable and he may lie curled up in bed, but the muscular rigidity and exaggerated deep reflexes are not present to the same extent as in basilar meningitis.

I have digressed into this long description of the varied nervous phenomena in cases of meningitis because the difficulty seems to be in diagnosing meningitis rather than typhoid fever; and the early recognition of meningitis is extremely important, as it is very amenable to proper treat-

ment, but if neglected it is a very fatal disease.[1] In meningitis the temperature is frequently very high, but the mean temperature is not so high, is more liable to frequent and sudden variations, and is more easily lowered and perhaps controlled than in typhoid fever. The pulse is often infrequent, but in this respect it is extremely variable: it is usually slow, small and moderately firm and is often very irregular in rhythm if not in force. In the case of septic meningitis it frequently varied from 70 to 160 whilst under examination. The headache and vomiting are more persistent, the bowels are usually confined and the abdominal walls retracted. There may or may not be paresis of some of the ocular or other cranial nerves, but there is not seldom double optic neuritis.

In all these four cases Ehrlich's diazo reaction was fairly well marked, and I have found it present in such a number of other diseases that I now attach very little importance to it as a diagnostic test. However, it is so constantly present during the second week of typhoid fever that its absence in any given case would be strong presumptive evidence against enteric fever. This test has been recently investigated by E. L. Munson, M.D., and Horst Oertel of New Haven, Connecticut,[2] and they believe that the reaction is due to the presence of aceto-acetic acid in the urine. If this view be established the test may become valuable in estimating the severity of the case and in directing the treatment. They also assert that this reaction runs in parallel lines of intensity with the deep purple colour given with the perchloride of iron as a test for aceto-acetic acid. I have not found such to be the case, for in many instances where Ehrlich's reagents gave a deep garnet colouf there was no purple reaction with the perchloride of iron. Moreover, when a patient is taking salol, any of the salicylates, antipyrin &c., the urine gives a deep purple reaction with the perchloride, but these drugs in no way interfere with the application of Ehrlich's test.

Pneumonia.—In certain cases there may be difficulty in affirming whether the existing pneumonia be the primary affection or consequent on an underlying typhoid state. Many cases of septic pneumonia are very insidious in their development and present a very typhoid aspect; on the other hand, some cases of typhoid fever begin very like an attack of pneumonia with a rigor, high temperature and embarrassed breathing. As a rule the history and a little patience soon clear up all doubts. In pneumonia the chest symptoms are early pronounced, whilst when that disease supervenes in a case of typhoid fever it usually occurs at a late stage, though of course in a particular instance there is no reason why the two affections should not develop concurrently. In such a case the typhoid symptoms would continue and become more prominent as the chest affection was subsiding. In one patient the lungs were studded with small pyæmic abscesses, though on admission the original source of infection, a small sore on the foot, had almost healed. Here the diagnosis should have rested between pyæmia and acute pneumonic phthisis, as the symptoms were entirely thoracic.

Acute miliary tuberculosis.—This form of tuberculosis often closely resembles typhoid fever, but in the former disease, especially where the lungs are prominently affected, the pulse and respiration are much more frequent in proportion to the temperature, and the abdominal symptoms are not usually pronounced. The examination of the sputum is not of much assistance, as even in tuberculosis the diagnosis is usually made before any bacilli are found. In tuberculosis the daily fluctuations in the temperature are great, and the remissions are often very marked not only in the temperature but also in the general well-being of the patient.

I do not think that we have had a case of typhoid fever mistaken for any other disease, so I am forced to conclude that the errors usually arise from judging too much from the aspect of the patient without sufficiently weighing the other factors. So long as cases of typhus fever are carefully eliminated I am personally not very particular about the diagnosis that has been made if the cases be sent in early. I would much rather receive a case with a hasty and perhaps erroneous diagnosis than that the patient should be detained at home amidst squalor and wretchedness for the mere purpose of establishing a diagnosis. Cases of typhoid fever are now received at all the general hospitals, and if a case turn out to be any other disease—except typhus fever—no harm is done, but much good accrues from early treatment and proper nursing. In sending a patient to a fever hospital it is of much more importance that the diagnosis should be correctly established, as it is easy to conceive how a medical man might be rendered liable to an action for damages if he sent, say, a patient suffering from pneumonia to a fever hospital without having exercised reasonable care in arriving at his diagnosis. I have known the case of a child sent into hospital with scarlet fever who brought typhus fever to all the members of her family. The moral aspect of the question of removal to hospital is of as much importance as the legal. The duty of a medical man is primarily to his patient, though at the same time no doubt he incurs certain moral and legal responsibilities to the rest of society, and if the patient can be properly treated at home it is much better that he should be. On the other hand, in any serious case of illness, if the treatment cannot be properly carried out at home, it is much wiser to send the patient at once to hospital rather than allow the friends to detain him until their patience and funds are exhausted and then send him there, perhaps at a time when removal can only be effected with grave risk to his life. I have seen very serious mischief occur to typhoid fever patients by removal at an advanced stage of the disease, and I hold strongly the views which Sir William Jenner so ably inculcated on this point: "Some of the worst cases of typhoid fever I have ever seen have appeared to me to owe their gravity to the patient having travelled, after the commencement of the sense of illness, in order to reach home. I very rarely advise a patient's removal to his home if that be distant, so satisfied am I that the fatigue of travel, whether by rail or carriage, tends to make what would otherwise have proved a mild case severe, and to cause a bad case, which might after perhaps a struggle have ended favourably, to terminate in death."[3]

Risk of infection.—With ordinary precaution I do not think that there is much risk of the disease spreading in the wards of a general hospital. I always insist on the nurses washing their hands in an antiseptic fluid every time they handle a typhoid fever patient, and the evacuations and clothing are scrupulously disinfected. Not one of the nurses who has been in attendance on our cases has contracted the disease. Two of our nurses caught the disease either from the patients or from the houses in which they were nursing in private. One of our probationer nurses took ill with a very mild attack of typhoid fever twenty-four days after she returned from her holidays. As she had no connexion whatever with any case of typhoid fever in the hospital we were inclined to conclude that she contracted the disease outside, although the period of incubation seemed long even for a very mild case. Of course it is possible that the initial symptoms may have been so very slight as to have escaped observation. We have only had one patient who contracted the disease in hospital, and if we had been trying to communicate the disease we could not have made a more unfavourable selection. This was the case of a young girl who was admitted two months previously with heart disease and rheumatic fever. She was suffering from mitral stenosis, with cardiac failure, congestion of lungs, liver, spleen and kidneys, and œdema of the feet and legs. Her liver reached the level of the umbilicus, and her huge spleen became much more enlarged during the typhoid attack. Independently of her critical condition the attack was a severe one. She was treated in the tank, made an excellent recovery, and was discharged cured not only of the typhoid fever but of all her other troubles except the mitral contraction, and, as the cardiac balance was restored, the effects of that were in abeyance. I am sorry I cannot have her here to-day, as she is now in London. In relating this case I am reminded of a statement I made on a previous occasion "that the chief incidence of typhoid fever under thirty years may be due to the greater alkalinity of the blood serum and intestinal secretions in early life. Over thirty years of age I have found it principally in those who were in depressed vital condition or in those who had an insufficient supply of animal food. The acquired immunity

[1] Since this lecture was delivered I have seen three cases of basilar meningitis. One was diagnosed on the day of admission to hospital, the twenty-sixth day of the disease. She was then deeply comatose, the deep reflexes were exaggerated, and there was double optic neuritis. The diagnosis was unfortunately made too late for any effective treatment. The necropsy corroborated the diagnosis in all particulars. The second case was seen in consultation, the diagnosis was made on the third day, and its correctness was afterwards established by the further progress of the case even to the extent of double optic neuritis. He made a good recovery. The third case was sent into hospital about the eighth day as one of typhoid fever. In this case the knee-jerks were exaggerated, ankle and knee clonus were well marked, fibrillar contraction of the muscles was readily induced, and the patient assumed the cerebellar attitude. He is still under treatment, but almost convalescent.

[2] New York Medical Journal, Feb. 4th, 1893.

[3] THE LANCET, Nov. 15th, 1879.

against this disease I believe to be associated with the increased formation of acid in the system." This view might seem to have been refuted by this case, where the disease succeeded an attack of acute rheumatism, and by another case in private where it occurred during convalescence from perhaps the most severe attack of acute rheumatic gout which I have ever witnessed; but both these patients were under alkaline treatment when the typhoid fever was contracted. The private case was in many respects a very remarkable one. She is a dyspeptic lady, about thirty-five years of age, who has a slightly granular condition of the kidneys. About six months prior to the typhoid fever she had an extremely severe attack of acute gout, which she maintained was "poor man's gout," and which no doubt had more reference to her dyspeptic troubles than to her mode of living. During the initial period of this gouty attack she was exposed to cold and damp, and an attack of rheumatic fever, afterwards complicated with pericarditis, supervened almost immediately on the acute articular gout. Her illness lasted four or five months, and during convalescence, whilst still taking salicylates and alkalies, the typhoid fever occurred. I saw her on the morning of the third day of this illness. She was then of an ashy, livid, grey colour, with an anxious expression, and had great distress in breathing; the percussion note was impaired and the breath sounds were harsh over the lower two-thirds of both lower lobes; the temperature in the axilla was 103·6°; the pulse was 120 (small and weak). I told her brother, who is a medical man, that although the symptoms pointed to double pneumonia, I felt confident that the case was one of typhoid fever. Accordingly I ordered her a calomel purge, ten grains of salol every four hours, a diaphoretic mixture and a mustard poultice to relieve the pneumonic symptoms. She progressed very satisfactorily till the twelfth day, in the morning of which I gave a very favourable opinion, but in the evening I received a hasty summons that she was supposed to be dying. She had had a rigor two hours previously, and I found her suffering from great pain and tenderness over the abdomen, more especially in the region of the spleen. Her temperature was then over 105°, and the pulse about 160, small and thready, the respiration being short, shallow and thoracic; there was no movement of the diaphragm. With the constant application of large iced compresses her temperature in a few hours abated and the other symptoms correspondingly improved. At the end of twenty-four hours her tense, tender abdomen had been sufficiently relaxed to allow of a more detailed examination. I then found her huge spleen pulsating in my hand, which made me fear the presence of that very rare and very serious complication of typhoid fever—namely, abscess of the spleen. However, with the constant application of an ice-bag over this enlarged organ the throbbing gradually disappeared and the size diminished. The patient made an excellent recovery without any further complications.

Mortality.—We have now had 103 successive cases with three deaths, but as one of these deaths occurred within fifteen hours of the patient's admission to hospital we are not expected to reckon it in our mortality. Some physicians who wish to improve their statistics extend this period to seventy-two hours, so that they do not calculate any death occurring within the first three days after admission to hospital. We have as yet no great necessity to improve our record, and as far as my present views are concerned I think the period should not be extended beyond forty-eight hours, as that period should afford ample time to make some impression on the patient if not on the disease.

That there may be no doubts as to our irresponsibility for this patient's death I shall give a brief sketch of the case whilst under my care. He was a well-made young man twenty-five years of age, of rather dissolute habits. He was admitted to the hospital about the end of the second week of the disease on Nov. 28th, at 8 P.M. At 10.30 P.M. I received a telephonic message that he was in a critical condition. When I first saw him at 11 P.M. he was deeply comatose, the temperature in the rectum was 108° and the extremities were cold. The pulse could not be felt at the wrist, but Dr. Coope counted the cardiac systoles as 160 in the minute; the respirations were 58, short, shallow and sighing. The patient was then placed on the Ilkley couch in the tank, his lower extremities were wrapped in a dry blanket and a hot tin was applied to his feet, whilst his head and body were constantly flushed with a stream of cold water at a temperature of 54°. It took three-quarters of an hour's flushing to reduce the internal temperature one degree, but after that the fall was fairly rapid and in an hour and a quarter it had fallen to 99°. The tank was now filled with water at 98°. His temperature kept below 102° till 2 A.M., when it began to gradually rise, and by 4 A.M. it had reached 104·8°. He was again flushed till it fell to 102°. He died at 11 A.M. without having regained consciousness. At the necropsy there were found extensive sloughing of Peyer's patches and of the solitary glands, swollen mesenteric glands, congestion of both lungs, and small fibrinous clots in the heart. We afterwards learned that he had been ill for twelve days, the first eight of which he spent in a state of intoxication, and only took to bed four days before admission; the last three days he was delirious and unconscious. He was first seen by a medical man the day previously to admission. He was not in a fit condition for removal, but it is not likely that he would have had any chance of recovery in the wretched hovel from which he was conveyed. This case supports a view which I have long held, that the so-called "ambulatory cases" are not always, as is generally supposed, mild, but they are frequently amongst the most severe cases with which we have to deal and which from want of proper treatment often end fatally. I think we may fairly eliminate this case and claim a death-rate of only 2 per cent. Considering that a large number of our cases have been extremely severe and that we have never refused admission to a single case, it must be granted that our treatment has been fairly successful. When I introduced the tank treatment, more especially for severe cases of typhoid fever, I set myself the task to reduce the death-rate to at most 5 per cent., as I considered that if the treatment of disease were as advanced as it should be that rate of mortality would be high enough for any acute disease the chief incidence of which was under thirty years of age. I have more than accomplished my task.

The tank.—I cannot at present show you any patient in the tank, as our recent cases have not been deemed severe enough to necessitate this mode of treatment. However, you can see the whole apparatus, which you will find fully described in my book. I need only say that I hold it in as high favour as ever and I shall continue to use it in severe cases until some simpler and more successful method of treatment has been devised.

Antiseptics.—Amongst antiseptic remedies it might reasonably be anticipated that a specific for typhoid fever would be found, but none has yet been discovered, though many claims have been advanced on behalf of various drugs. Dr. Anderson of Dundee, with, I think, insufficient evidence, considers that he has discovered a specific in salol. He says: "I desire to bring under the notice of my medical brethren a means of treatment in typhoid fever whereby the specific typhoid poison is rapidly and permanently destroyed in the patient; the course of the disease is arrested on the fifth day of treatment, when all the symptoms, excepting debility, subside and cease, and, provided the treatment be applied at the proper stage, resolution of the inflamed glands in the intestinal tract takes place without causing ulceration. Moreover, I believe that by this means the contents of the intestinal tract in the typhoid patient are so completely disinfected before being discharged from the bowel as to be rendered incapable of propagating the typhoid disease." Dr. Anderson's mixture consists of ten grains of salol, ten minims of chlorodyne and one drachm of Syme's milk of bismuth every two hours for an adult. I must at once condemn the use of chlorodyne, as I do not believe in bottling up the fæces in the bowel, and I prefer to complete the disinfection outside rather than inside the intestinal tract. Salol has been long used on the Continent and in this country as an intestinal antiseptic both in typhoid fever and in many other diseases. On looking over my notes I find that I have been using it in typhoid fever since March 9th, 1888, and I have not yet discovered its specific properties in this disease. My favourite antiseptics in typhoid fever are salol and salicylate of bismuth, not used with the view of killing the typhoid bacilli, but to lessen intestinal fermentation and irritation; salol is also a good cholagogue. When there is much nervous depression or deficient vascular tone I frequently combine these agents with caffeine. Other drugs are prescribed as the circumstances of each case demand, but I need not enter further into this subject at present. The exhalations from some of these patients' lungs have been as oppressive as anything you would meet with in malignant typhus fever. One sultry Sunday evening last autumn when I visited the hospital I found the atmosphere of the tank-room most offensively oppressive at a temperature of 70°, although the window and door were widely open. It was not difficult to establish the fact that the emanations

were from the patients' breath. I immediately set the steam spray to work and diffused half a pint of the peroxide of hydrogen into the atmosphere. This improved matters, and since then we frequently use the peroxide as an atmospheric disinfectant. For this purpose a very convenient automatic spray has been invented by Dr. B. W. Richardson, but any steam spray will do.

Diet.—My patients are always allowed an abundant supply of milk and farinaceous food, either plain or peptonised, according to the state of the digestive organs. To each pint of milk, whey, or other liquid, there is usually added some such combination of salines as the following:—Bicarbonates of potassium and sodium, of each five grains; chloride of sodium, ten grains; chloride of calcium, five grains; and occasionally one or two grains of chloride of potassium. As the chlorides are deliquescent these salts are best prescribed in solution. This mixture aids digestion and keeps the blood supplied with some of its normal saline constituents. Elsewhere I have stated: "If there be constipation or not much diarrhœa extract of malt will be found useful and sugar may usually be given, also the expressed juice of ripe grapes, but neither the skins nor seeds. If any stimulating effect is required beef tea, mutton or chicken broth with vegetable juices but no cellulose, clear soup, beef essence, kolatina and coffee may be given, and one or two raw eggs may be administered daily during any stage of the disease. The patient should be allowed to quench his thirst at any time with pure cold water, barley water, toast water, whey or weak lemonade. Under this diet there is often considerable loss of weight, but the extreme wasting recorded by Cayley and others is not likely to occur. The liquid nourishment should be continued until the temperature has been normal for a week or ten days, and then we should begin cautiously with fish, chicken, mutton, lightly boiled eggs, sweetbreads, boiled tripe, game &c. When the patient has been well fed during the fever his temperature is not likely to be affected when he begins solid food unless there be constipation, and this should not be allowed to occur. Recrudescences and relapses are often ascribed to the use of solid food when the occurrences are merely coincidences. Constipation with retention and accumulation of the fever poison is a more likely source of future mischief."

Alcohol.—I prescribe very little alcohol in any disease and almost none in typhoid fever. I have argued that the most severe cases of this disease can be successfully treated without alcohol in any stage, and having established that point I am, perhaps, now a little more liberal in its use during convalescence. I usually prescribe good bitter beer because, firstly, in my opinion there are fewer headaches in a gallon of beer than in an equivalent amount of alcohol in the form of whisky; secondly, good beer is easily obtained; thirdly, the alcohol is well diluted; and, fourthly, you are less likely to overdose your patient with alcohol. I have been prescribing malt extract with advantage. It is a very agreeable beverage, an excellent restorative, and as it only contains a very small percentage of alcohol it can be prescribed during any stage of the disease. Some time ago I received the report of the London Temperance Hospital for the years 1889-90-91; and I quite expected to find in it facts in support of the very advanced views on the alcoholic question held by the members of the staff and supporters of the hospital. I immediately looked up typhoid fever and lobar pneumonia, two diseases in which alcohol is generally supposed to have a beneficial effect, but I obtained very poor consolation even for my own more modified views. There are twenty-five cases of enteric fever recorded, with five deaths, and out of thirty-nine cases of lobar pneumonia there were eleven deaths. I would fain acknowledge that I think I made a mistake in cutting off the alcohol in the case of the man T—— whom you have seen to-day. This patient was admitted last autumn under the care of my colleague Dr. Dickinson, and was at first supposed to be suffering from glanders, but the true nature of the disease was soon established. The case was an extremely severe one; Dr. Dickinson treated him in the tank, and when he was going away on his holidays he kindly transferred the patient to me. When he came under my care I found that he was getting eleven ounces of brandy daily, which indicated the very grave view which Dr. Dickinson took of the case, as, like myself, he does not usually order much stimulant. I had no knowledge of the case previously to the time when I took it over, and I rather incautiously cut off the brandy; but the following day the patient was not so well and I substituted two pints of bitter beer. This patient suffered from a comparatively rare complication of typhoid fever—viz., disease of the right hip-joint. For this he was afterwards transferred to the care of my colleague Mr. Damer Harrisson, and the hip disease is now nearly well.

Complications.—We have had many other complications of this disease, but to-day I shall only deal with a few of these. I will now show you a patient who has survived a remarkable number of serious complications. The case will be published later, and you must now be content with a mere summary of the principal features. This is the case of a healthy Irish labourer, aged twenty. His illness began on Aug. 19th, and he was admitted to the hospital on the 24th, suffering from a very severe attack of typhoid fever. There was violent delirium, general muscular tremor, fibrillar contraction, subsultus tendinum and hyperpyrexia. On the 30th there was marked pulmonary œdema and general lividity, the respirations were 52 and the heart beats were 150 (the pulse could not be counted at the wrist on account of the muscular jactitation). He was frequently flushed with cold water, and iced compresses were constantly applied. The œdema of the lungs lessened, but these gradually became more solid on account of hypostatic congestion. He was changed from side to side every hour, but the vaso-motor paresis was so complete that even at the end of those short periods the increased solidity on the side on which he lay could be easily detected. At last the left lung became completely solid, so that it was impossible for him to lie on any other side. Eventually the whole left lung and the lower lobe of the right lung passed into a state of pneumonic consolidation. His respirations were 60, and at this period his pulse ranged from 160 to 180. On Sept. 7th the inhalation of oxygen was commenced and during five days he had 350 cubic feet of it. It now became urgently important that his nervous system should have rest, but it was impracticable to give him any soporific for fear of inducing the sleep of death. Moreover on account of the condition of his lungs he was getting five minims of strong solution of ammonia in iced barley water every half-hour, and it therefore became imperative that the sleep should not be so deep as to interfere with his power of swallowing. I then passed the oxygen gas through a solution of ammoniated chloroform in absolute alcohol, and the patient was kept under the influence of this stimulating anæsthetic for some days. Ammoniated chloroform was introduced by Dr. B. W. Richardson about ten years ago, "to reduce febrile temperature, to relieve pain, and to maintain the alkalinity and fluidity of the blood." This is a valuable but very irritating preparation. I found that it was so readily carried over by the oxygen as to become quite irrespirable. I then put one ounce of ammoniated chloroform and five ounces of absolute alcohol in a Woulfe's bottle and passed the oxygen through this mixture. The alcohol did not require renewal for some days, but half an ounce of ammoniated chloroform was added every hour. During the pneumonic stage of the patient's illness he had 350 cubic feet of oxygen, several ounces of strong solution of ammonia, a large quantity of ammoniated chloroform and numerous hypodermic injections of strychnine. By Sept. 12th signs of resolution were present in both lungs and during the following week this progressed very favourably. About the 20th there were signs of effusion at the base of the left pleura, and on the 29th I drew off seventy ounces of pus. In cases of empyema I usually prefer to have the chest freely opened, but this patient was not in a fit condition for any serious operation. I therefore exhausted the pleura as completely as it was possible with an aspirator, and, strange to say, the pus did not reaccumulate, but his temperature continued febrile. His general condition slowly but steadily improved, and frequent examinations were made to discover the cause of the continued high temperature, but without any very satisfactory results. On Nov. 16th pericardial friction was found, but this could not account for the previous high temperature and was merely looked upon as an extension of the disease. About the beginning of December I felt confident that there was pus in the mediastinum behind the heart, but the difficulty was how to reach it. On Dec. 12th I passed from the fifth interspace in the anterior axillary line a long exploring needle obliquely through the left lung until it reached well behind the heart, but I found nothing. I then withdrew the needle, inserted it in a similar position in the third interspace and pushed it clean through the lung well into the mediastinum. I there found two ounces of pus, which I removed with an aspirator. You see the patient is now in good health except that his temperature generally rises in the evening to 99° or 100°. I am of opinion that there is still

a little pus in the mediastinum near the root of the left lung, but although I have passed a needle in there once it is not an operation which I would again approach with great equanimity of mind. I cannot find a surgeon bold enough to turn the heart or lung to the one side and explore this region, so at present I feel inclined to let matters rest until I am forced to do something. Amongst other rare complications of typhoid fever I may mention a case of abscess behind the ascending colon. This was opened by Mr. Puzey and the patient made an excellent recovery. One of Dr. Dickinson's patients had an attack of orchitis.

Hæmorrhage.—I have dealt fully with the question of hæmorrhage, and to-day I wish to confine my attention, so far as curative treatment is concerned, to those severe attacks which place the life of the patient in imminent danger. It is generally assumed that hæmorrhage is an unfortunate complication which we can neither foresee nor prevent, but this is a proposition which, after much thoughtful consideration, I feel strongly inclined to dispute. The expectant method of treatment by quietly folding our arms, waiting to see what will turn up next, and treating symptoms or morbid processes as these arise may be fairly successful in practice by the negative merit of preventing meddlesome interference, but it is not scientific. We ought to know what will happen or is likely to happen in any individual case and prevent or be prepared for the occurrence. The hæmorrhagic cases, or what Trousseau would call cases of "hæmorrhagic putrid fever," are sufficiently distinctive, and it requires no great prescience to tell the direction in which the danger tends, but in a considerable number of cases the risk of hæmorrhage is much more obscure. Even in these cases, however, if carefully observed, there will be found great deficiency in vascular tone, without perhaps the blood tension being excessively or even moderately low; there is an absence of any tendency to inflammatory reaction; there may be hypostatic congestion of the lungs, but this is of a purely passive character, and there is no pneumonia or even marked bronchitis; the circulation is languid, and there is probably a tendency to cold feet; the delirium, when present, is likely to be of a low muttering character rather than of an exalted or violent description; the skin may probably have an ashy grey or slightly livid hue, and if there be any acne spots on the body these will probably be found congested or perhaps contain small hæmorrhages. A certain number of men prepare the friends of the patient for any contingency by enumerating beforehand a list of all the principal complications of the disease. Now it should be known that in a vast number of cases, especially in those where there is a marked tendency to inflammatory reaction, the risk of hæmorrhage is almost *nil*. When the hæmorrhage is very profuse it is generally and readily asserted that there has been ulceration into a large bloodvessel, but there are no large bloodvessels in the small intestine. No doubt the bloodvessels supplying the inflamed portions of the intestines are enlarged, but still these are never of any great size. When a case is examined after death from hæmorrhage it will, I think, be always found that the bleeding has taken place not from one point, but from numerous points in one or more of Peyer's patches. Now if there had been proper healthy inflammatory reaction the whole of these small vessels should have been obliterated in the process of sloughing, no matter how extensive or how deep that sloughing may have been. It should therefore be our aim to maintain as far as possible a normal condition of the blood and bloodvessels, and to encourage a healthy reparative action in the tissues. This is what I am afraid, in the vast majority of cases, we do not do. The dietary in a large number of cases, consisting almost exclusively of animal products without any vegetable juices, must tend in the direction of a scorbutic taint. Milk, no doubt, is an antiscorbutic, but when it is an exclusive diet the blood is not sufficiently replenished with its normal saline constituents. I frequently order mutton broth in which fresh vegetables have been cooked but the cellulose afterwards removed. The patient may also be allowed the juice of grapes, oranges or lemons, but none of the cellulose. When there is defective vascular tone I usually prescribe the chlorides, especially the chlorides of calcium and potassium, as I have found these agents very useful under varying conditions, not only in preventing but also in curing the hæmorrhagic state. Chloride of barium in small doses is also a useful salt. The following is a good combination: Ten grains of chloride of sodium, from five to ten grains of chloride of calcium, from one to three grains of chloride of potassium, five grains of bicarbonate of potassium, five grains of bicarbonate of sodium; water to one ounce—this quantity to be added to each pint of milk, whey or other liquid which the patient drinks. When chloride of barium is given I think it is better to order it separately and in strictly medicinal doses. A great many patients have been very improperly fed before they contracted the disease, and in such cases we have to remedy an unhealthy condition of the tissues and prevent further degenerative changes. During the progress of a long-continued fever we must neither poison our patients with the waste products of animal tissues nor deprive the blood of its normal saline constituents.

I do not attach much, if any, importance to epistaxis, or even to hæmorrhage from the bowel from congestion of the mucous membrane at an early stage of the fever, but profuse hæmorrhage about the end of the second or during the third week from ulceration or separation of the sloughs is a fact of the gravest significance. How far this form of hæmorrhage may be obviated in the future remains to be seen. In cases of severe hæmorrhage the immediate danger is fatal syncope from rapid fall in blood pressure, and the most effective remedy for this condition is transfusion of a normal saline solution into a vein. Transfusion into the cellular tissue is much too slow a process, and does not sufficiently raise the arterial pressure. Those who have much to do with this disease should always be prepared for such contingencies. Unfortunately a large proportion of these severe attacks of hæmorrhage occur in the middle of the night, or at other times when the medical attendant is not at hand; the nurses ought therefore to be instructed how to proceed in such emergencies. The patient's head should be depressed and the foot of the bed elevated by blocks. To remove the dangerous fall in the blood pressure the patient should be given immediately half a pint of cold milk to which there has been added half a pint of boiling water and one or two doses of the saline solution to which I before alluded. To arrest the hæmorrhage a large ice bag should be applied to the region of the cæcum and a hypodermic injection of ergotin should be administered. The best hæmostatic in such cases is perhaps turpentine in ten-minim doses every hour or two, and the peristaltic movements of the intestines should be lessened by repeated doses of opium. For some days the stomach should not be troubled with much food, and this should only consist of beef essence, soup, peptonised gruel, whey or other substances which do not form much excreta. The saline mixture should be continued. If there be any vomiting the patient should have ice to suck or swallow, and small nutrient enemata or suppositories may be given. A little soda water or small doses of champagne often prove grateful to an irritable stomach. Alcoholic stimulants should be reserved for emergencies and ought not to form any part of the ordinary treatment of hæmorrhage.

CLINICAL OBSERVATIONS ON HYSTERIA.[1]

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IN considering hysteria we are confronted at the very outset with a difficulty which arises partly from the absence of a definition of the neurosis and partly from the complexity of its phenomena. The ancient meaning of the word and the ideas connected with it have been finally abandoned, and as yet no substitute for it has been found. There are many advantages to be gained by retaining the word "hysteria" whilst dropping the old theories in which it originated. Indeed, as a general rule which results from the continual progress made in medical knowledge, those diseases have been found to be most appropriately designated whose names imply no theory as to their origin. It is only by the study of its symptoms that we can finally learn what hysteria is and what it is not. To the labours of M. Charcot and the French school we are indebted for the chief advance in this direction. They have sought to determine the constant features of the neurosis and have succeeded in showing that, far from being

[1] Abstract of a thesis for the degree of M.D. Camb.

a malady whose symptoms may vary indefinitely, hysteria betrays itself at least in one large group of cases by the presence of certain constant signs more or less well marked in different patients. These signs they term "permanent stigmata." They arise partly from disorder of the motor centres, partly of the sensory centres. M. Blocq[2] enumerates them as follows:—

1. In the sphere of movement: contractions.

2. In the sphere of sensation: common sensation—anæsthesia and hyperæsthesia. Special senses—affections of vision, taste, hearing and smell.

3. In the sphere of nutrition: certain variations in the urinary excreta.

That these stigmata are present in a large number of patients is certain, but they do not seem to occur in all cases. M. Charcot himself admits the existence of "mono-symptomatic hysteria"—that is to say, cases in which the presence of the disorder is shown by a single symptom in the absence of other hysterical stigmata.

The object of the present essay is to determine what are the symptoms and signs met with in everyday practice in a general hospital in cases which would be generally admitted to be instances of hysteria, starting with the hypothesis that such cases may present a group of symptoms of a definite and more or less constant character, expecting to find in individual cases the variations from the underlying general type of the malady which are met with in all diseases, and at the same time carefully abstaining from preconceived notions as to the nature of the facts observed. The observations are founded on the study of seventy well-marked cases not selected but taken in the order in which they came under observation.[3] With regard to etiology, the tendency of the French school is to consider hysteria as an hereditary disease. The causes which give rise to the manifestation of hysterical symptoms do not, according to this view, directly cause them, but merely provoke their appearance in an already predisposed person; they are thus exciting agents only. The hereditary taint may be directly transmitted, as in the case of a hysterical mother who has a hysterical daughter, or the parents may suffer from other nervous affections and have hysterical offspring. As a corollary of this view it must be added that the hysterical tendency may remain latent throughout life if the person be not exposed to the influence of agencies which are capable in his or her particular case—for what is an efficient cause in one person may be powerless in another—to call it forth. It seems to me that this hereditary character of the neurosis does not hold good for all cases.

Inquiry as to the existence of disease in the family history of twenty-eight female patients showed that in five instances the fathers of the patients were drunkards, and in many others there was probable but less certain evidence of alcoholism in the parents. In eight cases one or other of the parents had suffered from some form of nervous disease; in six of these the mother was the one affected. Either the father or the mother of five patients had suffered from asthma, and in eight there was a family history of phthisis. In six cases some of the brothers or sisters had suffered from convulsions in infancy or fits in later life. In eight cases of hysteria in children the family history in six was bad. There was a history of syphilis in the parents of one child, of alcohol in those of two, of infantile convulsions or fits at a later age in the brothers or sisters in five, and in addition the mother of one of the patients died from alcoholic paraplegia. In six cases of hysteria in men I failed to obtain any evidence of nervous disease, of alcoholism or syphilis in the parents or near relatives; two gave a family history of phthisis. From the above observations the predominant fact would seem to be the much greater frequency and severity of hereditary tendency to nerve disease shown in the case of children; so far this would tend to confirm the importance of the part played by heredity in hysteria, or put in another way we may regard its appearance in children as evidence of the intensity of the hereditary taint. The statements given above are most probably too low, as patients of the class from which out-patients are drawn are not always very intelligent or very anxious to give full information; this particularly applies to the answers made to inquiries about excessive indulgence in alcohol. I am of opinion, however, from experience of out-patient practice, that alcoholism in the parents often leads to the development of various neuroses in the offspring. The frequency of phthisis in the family history seems rather great, although of course caution is necessary in drawing any inference from a small number of patients in the case of such a widespread disease. It may, however, be observed that the time when phthisical symptoms appear corresponds to that at which hysterical phenomena very commonly first show themselves. Passing on from the question of heredity, the outbreak of distinct hysterical symptoms is often preceded by a deterioration of the general health and the patient passes into a state of lowered nutrition, in which the nervous system suffers from want of a due supply of nutritive material. In hysterical women anæmia, with its attendant dyspepsia and constipation, is exceedingly common. Of the twenty-eight cases given above eighteen, or two-thirds, suffered from a marked degree of anæmia. If one may rely on patients' statements the depressing effects of influenza predispose to hysteria. In several of my cases influenza was given as the cause of the illness. The symptoms either appeared within one or two weeks after it, or later, after more or less prolonged periods of malaise.

The commonest exciting cause of hysteria is found to be a powerful emotion of some kind. The influence of injuries of various kinds is well established; and it is in cases of traumatic hysteria that we get the most direct evidence of immediate cause and effect. In other patients it is often difficult to obtain information as to a definite cause, as the symptoms come on gradually and indefinitely, or suddenly break out without any assignable reason. This, however, does not apply to children, for in the majority of these patients there is a history of a clear and definite cause of the attack. Highly emotional religious exercises may evoke hysteria, and most writers concur in acknowledging the disastrous effects that may follow unsuccessful or injudicious attempts at hypnotisation. I may also note that disease of the sexual organs does not *ipso facto* induce hysteria; although it must be remembered that sexual excesses may act as a predisposing cause on account of the general exhaustion they entail and the severe strain that falls on the nervous system. Mention must be made of the so-called "toxic hysteria," by which term is meant the occurrence of hysterical symptoms following on the action of various poisons, of which lead, alcohol, mercury, bisulphide of carbon and tobacco are the chief. No doubt persons who indulge freely in alcohol are more prone to hysteria than those who are temperate, but so far as my experience goes the resulting symptoms could not be distinguished from those of hysteria due to other causes. Of the action of other poisons I have no practical knowledge. Although there are large lead works near the Bristol Hospital, from which a considerable number of patients affected with plumbism are treated, I have not yet met with a case in which there were distinct hysterical stigmata, and conclude that such cases are rare. Some of the cases described under the title of "lead encephalopathy" are probably hysterical. Tobacco operatives are not especially liable to hysteria in my experience.

I have lately had a little girl under my care who suffered from hysterical arthralgia and loss of power in the right hip, which had prevented her from walking for six months and had followed rheumatic fever. She was speedily cured after admission into the hospital. The onset of the catamenia does not seem to have any effect in causing an outbreak of hysterical symptoms. Of forty cases in women, in twenty-five the onset of hysteria was between the ages of seventeen and twenty-six years, and in sixteen of these it occurred between the ages of seventeen and twenty-one years inclusive, in six cases at the climacteric, and in the remaining eight cases in the intervening period of life. This shows a very great preponderance of cases in the first group. In men the time of onset is most frequently between the ages of twenty and thirty, in many it is between thirty and fifty, and there is not the same great proportion for the earlier age as in women. In the large majority of children ten to fifteen is the age at which the symptoms appear. This was so in seventeen out of nineteen cases. With regard to the influence of sex, out of the nineteen cases of children ten were males and nine females, so that the numbers are practically equal, and the conclusion is reached that sex has in them no influence. For the rest I have notes of forty cases of women and of eleven cases in men, or nearly four to one.

A larger number of patients seek advice for convulsive attacks or other forms of the hysterical paroxysm than for any other symptom of hysteria, and I shall therefore consider

[2] De Stigmates Hystériques, Gazette des Hôpitaux, Jan. 23rd, 1892.

[3] The cases especially mentioned are given in abstract only for the sake of brevity. Each case was systematically investigated for signs of organic disease, for sensory defects &c., but positive signs are alone mentioned and the negative as a rule omitted.

these attacks first. Thus of forty female cases thirty-four suffered from hysterical fits of mild or more severe character. Thirteen out of nineteen children and seven out of eleven men were similarly affected. The severest type of hysterical seizure—hystero-epileptic attack (grande hystérie), as described by M. Charcot from his observations on patients at the Salpêtrière—I have not witnessed. The common form of hysterical seizure may be complete, or one or more of the stages may be absent. The complete attack, as I have observed it, consists of (1) the premonitory period ending in the aura and passing into (2) the stage of tonic contraction or general rigidity, (3) the period of clonic spasms or wild movements, and (4) the period of delirium. Often two or three attacks succeed each other, the patient either lying quiet or talking or moaning in the intervals, the whole series lasting from one to two hours in bad cases.

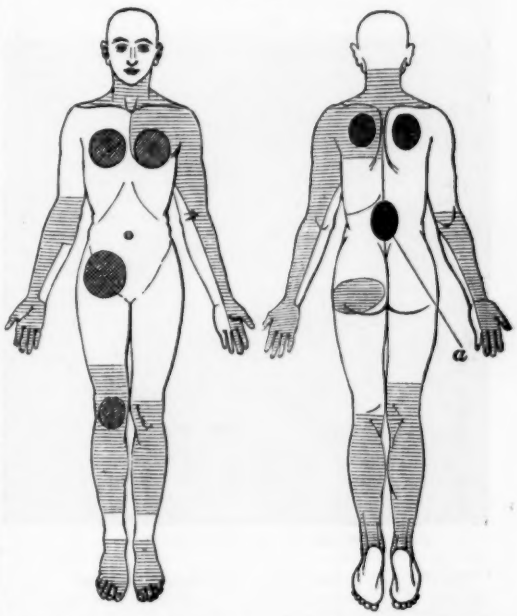
The following case illustrates the main features of a moderately severe attack. A young man aged twenty, a collier, had previously suffered from a hysterical affection of the hip. An aura of a ball rising from the stomach to the throat preceded the attack. He had two of these whilst being examined. Whilst sitting in a chair he arched his back over the chair, off which he slid to the ground; he then lay in well-marked opisthotonus resting on his heels and on the back of his head; the respiratory movements became rapid and shallow; there was no twitching of the muscles; the eyelids were rapidly opened and shut; the pupils, slightly dilated, reacted to light. After about thirty seconds movements (purposeful) of flexion and extension of the arms and legs began and alternated with arching of the back in opisthotonus, from which position the buttocks were brought forcibly down against the floor. After some minutes he rolled over and over three or four times, coming to rest on his back, when he began to tear his clothes from his neck and chest; then rapid opisthotonic movements recurred and were followed by flexions and extensions of the trunk, in which he sat up and threw himself back, which brought the attack to an end. During the first part of the stage of violent movements the face was flushed and the eyes closed, in the latter part the eyes were open, the pupils acting to light. There was no twitching of the facial muscles or spasm of the jaws; there was a little frothing of the mouth. He came round very quietly, with a few sighs. It was doubtful whether there was at any time complete loss of consciousness.

In this case the concluding phase of delirium or delirious raving, so frequent in and so characteristic of hysterical seizures, was absent. In this delirious stage the patients describe aloud, as it were, the phantasmagoria passing before their eyes—e.g., they are in heaven amongst angels, or more commonly, as M. Charcot points out, the hallucinations are of a sombre character; they are surrounded by devils or strange monsters, or pursued by murderers. The attack may be imperfect, one or more stages being absent. In the milder forms of attack, which are very common, the patient gradually falls or rather slides to the ground and lies stretched out, with the limbs motionless; when he is raised there is generally slight rigidity of the limbs to be felt, but sometimes they remain flaccid. The eyes are closed or sometimes there is a rapid opening and shutting or flickering of the eyelids. The patient may sigh or moan from time to time. Out of these attacks he may awaken quietly. There is not complete loss of consciousness and the patients lie in a condition of partial stupor, from which they can often be roused and made to get up if they are spoken to sharply. Towards the end there is sometimes a period of delirium almost as well marked as when convulsions are present, and very frequently the patients tear at their hair and clothes when recovery is commencing. Still other of these milder attacks closely resemble attacks of syncope, so that different forms of the attack may very imperfectly represent the more fully developed form. The premonitory period with its phenomena immediately preceding the attack is fairly constant; the period of delirium is the next least seldom absent; while the stage of tonic spasm is often very imperfectly represented or absent.

Contrasting, briefly, the hysterical with the epileptic attack, in the majority of examples of the former the prolonged aura and the concluding stage of delirium are the most characteristic features. The stage of tonic spasm may be absent or ill marked in the hysterical attack, or, on the other hand, it may rarely be so prolonged as to put epilepsy out of the question. In the ordinary hysterical attack the loss of consciousness is not so profound as in epilepsy, and the character of the movements in the clonic stage is different.

The presence of anæsthesia requires to be carefully sought for. Most hysterical patients are not inconvenienced by it and are unaware of its existence. Occasionally, however, the hysterical directly seek advice on account of some form of anæsthesia; I find two instances of this out of seventy patients. With regard to the phenomena attendant upon anæsthesia—and first the superficial reflexes,—the plantar reflex is absent when there is anæsthesia of the legs; in hemi-anæsthesia it is absent on the anæsthetic and present on the other side. We may note that the plantar reflex is often found to be abolished in cases of functional paraplegia, in which there is no anæsthesia. The abdominal reflexes are sometimes absent, but more often in those of my cases in which this point was investigated they were unaffected. In cases of complete anæsthesia there is also loss of the muscular sense as shown by the loss of sense of position, of that of movement and of distinction between different weights when the eyes are closed. These senses may be dissociated; the last seems to be the most delicate and earliest affected. Thus a man in whom there was anæsthesia of the left arm and hand had no loss of the sense of position or of movement of the limb and could

FIG. 1.



Case of hysterical attacks and muscular weakness. Hyperæsthetic areas black. *a*, Hysterogenic zone. Loss of temperature sense over soles of feet; no analgesia or anæsthesia (tactile) here. Temperature sense also lost over anæsthetic areas in legs; elsewhere present.

accurately carry out when blindfolded suggested movements, but could not distinguish between different weights. As Dr. Bastian[4] has shown, there may also be a loss of the idea of certain movements. Most often all kinds of sensation are affected together. Sensation may be entirely lost or deficient only. When the loss affects one form of sensation alone analgesia is most common, but tactile anæsthesia may be complete, with normal acuteness to pain. Amongst rarer forms in a boy suffering from paraplegia with contractions there were analgesia and loss of sensation to cold over the legs, whilst tactile sensation and sensation to heat and faradaism were preserved. In another case sensation to pain and temperature was lost, whilst that to touch was normal over the paralysed arm.

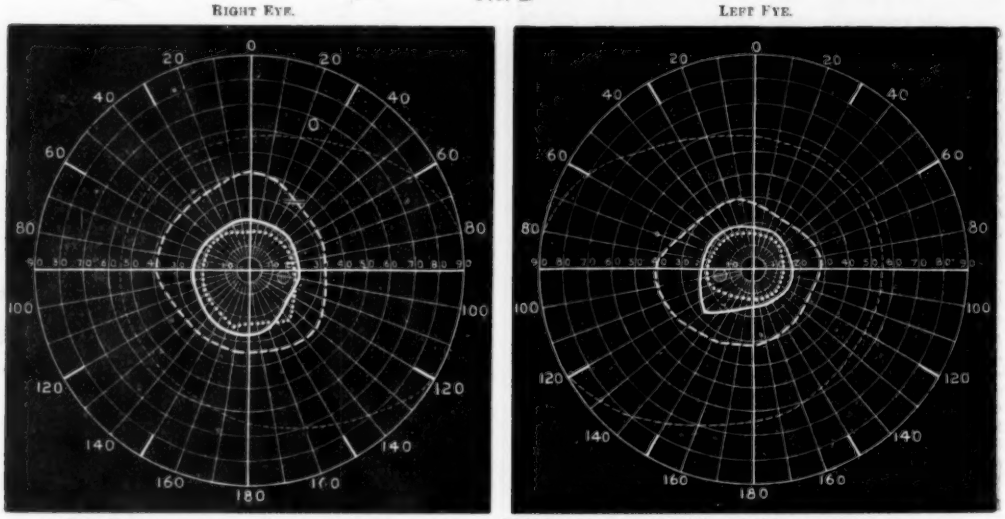
According to French authors the topographical distribution of hysterical anæsthesia may be (1) general, (2) unilateral,

[4] Lectures on the Various Forms of Hysterical or Functional Paralysis, THE LANCET, Oct. 10th, 17th, 24th and 31st, 1891.

(3) scattered in areas distributed irregularly over the surface of the body and (4) affecting one limb only. The most common is the second variety—hysterical hemianæsthesia—fully described by M. Charcot. With unilateral loss of cutaneous sensibility there is loss or defect of smell, taste, hearing and contraction of the visual fields on the same side. One often finds, however, that the cutaneous hemianæsthesia is not quite uniform all over the affected side; it is more marked in certain parts and less evident or even absent in others, whilst roughly preserving the unilateral type. Fig. 1 is taken from the best marked case of the third variety that I have met with, in which the patches of anæsthesia were irregularly disseminated over the trunk and limbs. The patient, a young woman aged twenty-two, suffered from hysterical seizures following influenza. There were hyperæsthetic areas of skin over the shoulder blades, the right ovarian region and the right knee, and a hysterogenic and hyperæsthetic zone over the lumbar spine. She had loss of smell and taste on the right side, loss of sensibility over the conjunctivæ and contraction of the visual fields. The only affection of the muscular sense was an inability to distinguish between objects of the same size but of different weight when they were successively placed on the fingers. (Figs. 1 and 2)

In thirty-six women suffering from hysteria, in whom the presence of anæsthesia was carefully sought for, I found that in three there was general anæsthesia, but in two out of the three the anæsthesia was much more profound on one side of the body than on the other, and in the third loss of tactile sensation only was general, whilst over the legs there was analgesia in addition. Hemianæsthesia of greater or less degree was present in eighteen patients, in eleven it was left-sided and in seven right-sided. In three cases loss of sensation was of more limited extent, being restricted to the left leg, to the hands, and to one arm respectively. In ten patients there was no cutaneous anæsthesia. Of twelve cases of hysteria in children under the age of fifteen, hemianæsthesia was present in two, on the right and left sides respectively, and loss of sensation over the legs in one case. In the others sensation was unaffected. Of ten men, in three there was hemianæsthesia (left-sided in two of them), and in two more a limited area of anæsthesia was found. Two of the remaining five cases without anæsthesia were instances of monoplegia with contraction, so that cutaneous anæsthesia was less frequent in the children than in the adults and in the men than in the women.[5] As regards vision the characteristic change in hysteria is a concentric contraction of the visual fields, which may be regular or irregular in outline. This contraction is as a rule bilateral, but is very much greater in the eye on the anæsthetic side of the body. I have not met with an instance

FIG. 2.

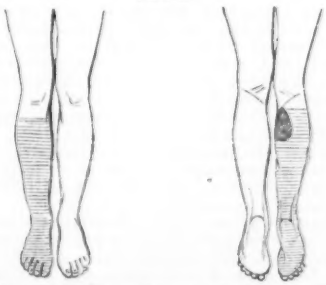


Case of hysterical attacks. Disseminated areas of anæsthesia. Field for white, interrupted line, field for red, continuous line; field for green, dotted line.

Distribution of anæsthesia in "geometrical segments": here the loss of cutaneous sensation is confined to the skin of the paralysed limb and is abruptly demarcated by a circular line passing around it at right angles to its long axis. In the case of hysterical joint affections (paralysis, arthralgia) the anæsthesia has a regular distribution, which is always the same for each joint. For instance, if the foot and ankle are affected with hysterical paralysis the loss of sensation has the distribution of a "sock or stocking"; if the forearm and hand are affected there is a long glove of anæsthetic skin. The following cases are examples.

A servant was seized with pains, loss of power and numbness or deadness in the right leg, coming on gradually. She dragged the leg in walking. Sensation to touch, pain and temperature and the muscular sense were entirely lost over the right leg below a line drawn horizontally round the limb two inches below the knee-joint. The right plantar reflex was absent, the visual fields much contracted, greatly so in the right eye, in which colour vision was almost lost. She recovered in a few weeks. In another case of paresis of the right arm and leg in a young woman there was anæsthesia as high as the junction of the arm and shoulder in the former, and in the latter below a line passing horizontally around it at the patella. Professor Janet makes the suggestive remark that the distribution of the anæsthesia in these cases corresponds to the extent of the limb or organ affected with hysterical paralysis as it is understood in common parlance and not in scientific nomenclature.

FIG. 3.



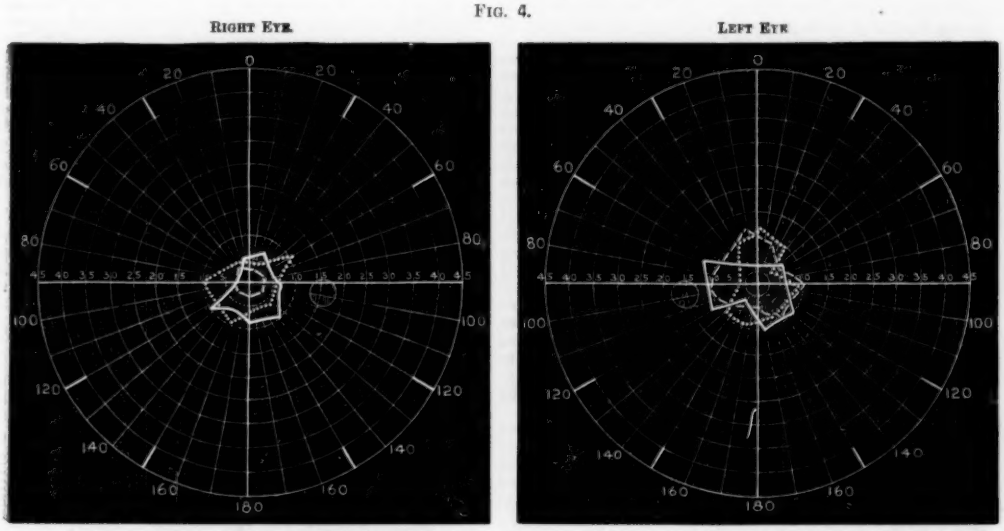
Hysterical paralysis and neuralgic pains in right leg. Complete anæsthesia and analgesia over shaded areas. Slight loss of sensation over right side of body generally as compared with left side. Right plantar reflex absent.

[5] Cf. M. Gilles de la Tourette: Traité Clinique et Thérapeutique de l'Hystérie, p. 152.

of marked contraction of the visual field in one eye only. The contraction may be moderate or extreme, as represented in the accompanying charts. The fields of vision for the different colours are similarly affected with that for white. The charts show that the latter may be smaller than the fields for red and blue. Except in the extreme cases acuteness of vision is not affected, but when the contraction of the fields is very great there is also loss of visual acuity. As central vision is thus good in the majority of cases, the patients do not, as a rule, complain of any defect of sight. An explanation of the fact that patients do not perceive or suffer any disadvantage in ordinary vision from the small size of the field has been suggested to me by my friend Mr. C. H. Walker, the ophthalmic surgeon to the Bristol Hospital, to whom I am much indebted for his kindness in taking a large number of perimeter charts of the visual fields. It is that in the feeble condition of the visual centres they will only respond to a limited degree of stimulation at one time. Thus if the eye be steadily concentrated on an object, such as the fixation point of the perimeter, whilst the region of central vision, thus powerfully stimulated, remains acute the outer parts of the field are inactive, all the available power of vision, so to speak, being used up in fixing the point. In ordinary vision for distant objects, however, there is not the same amount of concentrated attention on one point, a corresponding less exhaustion of the centres and consequently a certain degree of visual acuity over the whole field. According to this view the contraction of the fields would be a phenomenon only appearing during close concentration of vision on one object. This is borne out by the common observation that the examination of the visual field in hysteria must not be too prolonged—to take its extent in four diameters is quite sufficient; if the examination is protracted a field may be obtained decreasing progressively in size with the length of the examination.

(To be concluded.)

FIG. 4.



Formerly hysterical paraplegia, now slight hysterical seizures. Fields for white, interrupted line; field for red, continuous line; field for green, dotted line.

CHOLESTEATOMA OF THE MASTOID CELLS.

BY A. MARMADUKE SHEILD, M.B. CAMB., L.R.C.P. LOND., F.R.C.S. ENG.

THE pathology of the tumours or rather accumulations known as cholesteatomata seems rather confused. By some they are considered as distinct neoplasms, by others as originating in desquamating epithelium, and by a few as concentric masses of inflammatory débris containing cholesterine and amorphous material with fat globules and fragmentary cells. The shape and consistence of these masses are largely determined by the unyielding nature of the confining walls, which are smoothed, rounded and extended by pressure absorption. It is necessary, especially in the ear, not to confound these growths with dermoid cysts, which frequently lie deeply, and may even impinge upon the meninges. A dermoid cyst has a distinct capsule and usually contains hairs. A cholesteatomatous formation is merely bounded by condensed laminæ and contains caseating débris. Undoubtedly a certain number of these cases are caseating masses of tubercle, which bear a strong resemblance to bovine tuberculosis (pearly nodules, *Perlsucht*). The fact of epithelioid cells being found in some of them in concentric layers reminds one of the implantation cysts[1] which follow injury when epithelial elements are introduced and shut in. The epithelium of the auditory canal will readily spread into a cavity in direct continuity with it, and being constantly shed may in the course of years cause considerable accumulations. Virchow speaks of these formations thus: "The tumour that Müller termed 'cholesteatoma,' Cruveilhier *tumeur perlée*, which I have translated *Perlgeschwulst*, has exactly the same epithelial structure as that which Hanover called 'epithelioma.'..... Yet both exhibit very essential points of difference."[2] Ziegler gives a short but excellent account of these formations. "Cholesteatoma is a tumour that is not well understood. ..... The soft white mass of the growth is composed of scales like those of the epidermis. ..... It occurs chiefly in the dura mater at the base of the brain, about the transverse fissures. ..... The places described are such that at the time of development of the brain primitive epiblastic cells might remain unelaborated and form the rudiment of a neoplasm at a later stage."[3] It is questionable whether this latter explanation at all applies to the special formations under discussion. Though Virchow describes a kind of connective tissue capsule, and seems to look upon the formation as a neoplasm, I believe that there is no true cell proliferation, and that the main bulk of the material is due to the accumulations of cell destruction rather than to cell formation. St. John Roosa very briefly alludes to the subject of these formations. "They sometimes destroy the bone by pressure and may even extend into the cranial cavity."[4] Field,[5] in his

[1] Transactions of the Pathological Society, vol. xxxv.

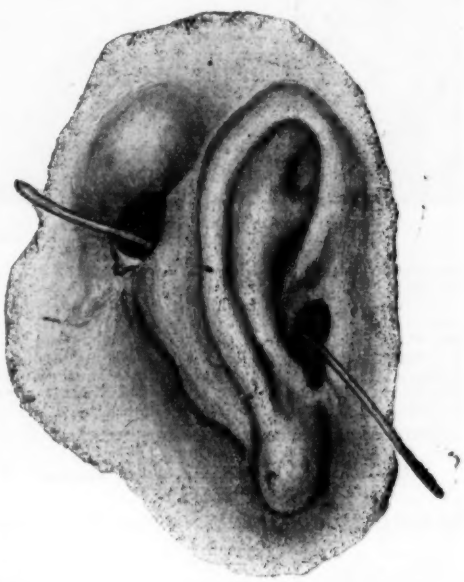
[2] Cellular Pathology, p. 482.
[3] Ziegler's Pathology, Art. 663.
[4] Diseases of the Ear, seventh edition, p. 479.
[5] Diseases of the Ear, p. 224.

recent edition, alludes to cholesteatomata being found in the attic of the tympanum and enumerates operative procedures for their removal. He also speaks of chiselling open the mastoid and posterior wall of the canal to remove them from the mastoid cells. Pritchard and Dalby do not formally and markedly allude to the subject. Hartman distinguishes between "pearl tumours" and cholesteatomata. The former are composed of desquamated epithelium, the latter of inspissated pus. "These deposits may produce sclerosis, atrophy from pressure, and caries and necrosis of the osseous walls."[6] He refers in detail to the removal of these products from the tympanic cavity by the intra-tympanic syringe, and mentions the necessity of opening the mastoid in cases of accumulations within those cavities. Here some confusion has arisen in regard to those firm, tough, adherent plugs of material that are found in the canal in cases of inflammatory desquamation. These being formed of flakes of epithelium mixed with caseating débris are sometimes termed "cholesteatoma." In cases where chronic discharge is superadded and caseating débris remains in the tympanum the analogy is very close. Gruber has a short article on the subject and refers to cases by Wendt and Kupper.[7] Schwartze[8] has a full and excellent article, with several illustrations of cavities formed in the temporal bone by these tumours. Steinbrügge[9] of Heidelberg relates a case where a cholesteatoma perforated the temporal bone into the region of the semi-circular canals, being associated with cerebral abscess and having a fatal result. Moos[10] mentions an instance of this affection where spontaneous rupture took place into the auditory canal. This seemed to be due to acute inflammation following baths. A large quantity of the usual cheesy secretion was evacuated, recovery ensuing. Early cases are also related by Lucæ, Bezold and later by Volkmann.

In conclusion the matter may be stated thus: The term "cholesteatoma" seems to have been applied generally to formations having for their characteristics cholesterine and fatty material. Thus it has been used for dermoid and sebacous cysts, degenerating granulomata, as tubercle, and for the caseating and inspissated products of chronic suppuration. In the ear the term has also been applied to epithelial plugs of the canal. The true cholesteatoma of the mastoid is not a neoplasm in the strict sense of the word, but is due to the accumulation of many generations of squamous epithelial cells which are successively shed. The epithelium grows into the mastoid antrum or cells from the auditory canal or tympanum through an opening previously caused by carious and necrotic processes. Though one or two cases have been recorded where no history of suppuration was obtained I am inclined to believe that these were instances of deeply seated dermoid cysts. A large portion of these formations will consist of débris and the products of fatty degeneration originated in inspissated pus. The more fluid parts are absorbed, leaving the cells behind. The complicated cavities opened up in mastoid disease seem especially designed to catch and intercept the solid particles of pus which become deposited there as mud and silt are in the bays and creeks of a sluggish river. The constant deposition of shed epithelium from the exterior produces pressure and an appearance of concentric lamination. The constant pressure causes absorption and large cavities may thus ultimately result. The symptoms occasioned by such tumours are largely those of chronic mastoid disease, and it is only on exploration that their true nature can be detected. In a few cases large masses of the white tough material have escaped spontaneously, or may be seen by the speculum projecting into the tympanum. After free excision efficient drainage of the resulting cavity is best carried out by removing the overlying bone far more thoroughly than is generally done. In cases of accumulations of this kind within the tympanum soaking with alkalies or pancreatic liquor, followed by the use of the intra-tympanic syringe, is useful, and if much difficulty be experienced the membrane can be freely divided and the substance carefully evacuated with small scoops. In such cases, however, the mastoid antrum, which is directly continuous with the attic of the tympanum, is usually also implicated.

An anæmic woman who had been reared at the Foundling Hospital and whose early history was obscure was admitted under Dr. Bruce's care to Charing-cross Hospital on Feb. 7th, 1893, for facial paralysis of the right side. This being associated with, and apparently dependent upon, suppurative middle-ear disease, he kindly requested me to take charge of the case. On examination the girl seemed extremely ill, drowsy and stupid, with the well-known smirk and grin of complete facial paralysis. A scanty but fetid discharge flowed from the right ear, and this being washed away partial destruction of the membrane and granulations were evident. A small discharging sinus existed behind the ear, and leading from this was a horizontal scar. So far as could be ascertained the girl had suffered from ear mischief since childhood, and she stated that about four years previously an operation had been performed upon her at St. Bartholomew's Hospital when "dead bone" had been removed. She was quite deaf on the affected side, even to loud conversation, but the tuning-fork could be long heard on the mastoid and the watch on contact. Her principal trouble was the persistent headache. She stated that she had had facial paralysis before and that it had passed off. The muscles now failed to respond to faradaism. The patient could only be examined with difficulty. There were no symptoms of diabetes or tuberculosis.

Jan. 10th.—The mastoid fistula was examined under ether; it just admitted a fine probe. The opening was enlarged and a small spoon passed into a cavity of considerable size, which was full of firm caseating débris; a quantity of this was removed and it was very offensive. Microscopically it



was composed of débris and large flat cells, with a quantity of cholesterine. Pulsation could readily be detected against the spoon, as though the cavity were bounded by the dura mater. Iodoform emulsion was passed in with a strong syringe; it freely escaped through the meatus. A full-sized tube was introduced and the parts were daily syringed with a solution of peroxide of hydrogen. The most marked relief to the "head symptoms" and improvement in general health followed this procedure. It was obvious, however, that a persistent sinus would remain, and on March 2nd a more extensive operation was performed under chloroform. A large flap was turned downwards, freely exposing the mastoid region, and some bleeding vessels were seized with pressure forceps. With mallet and gouge the outer shell of the large cavity was freely removed, taking the sinus as a centre. Working layer by layer, a considerable cavity was opened, which seemed to include the whole mastoid. It was now seen how inefficient the previous proceedings had been, for layers of the same tough cheesy material were arranged concentrically in the cavity and could only be detached with scoops, aided by a strong jet of hot water, which, as so well described by Barker, assisted both in checking the oozing and in washing away the débris.

[6] Diseases of the Ear, pp. 165 to 185.
[7] Diseases of the Ear, p. 320. [8] Die Chirurgie des Ohres, 1884.
[9] Archives of Otology, vol. ix., p. 21.
[10] Ibid., vol. xii., p. 128.

When all had been removed there remained a smooth-walled cavity the size of a small walnut. Everywhere it seemed bounded by thin bony parietes, except superiorly, where there was a distinct sensation of yielding, as though the dura mater were exposed. The lateral sinus could not be seen, being separated from the cavity by a thin lamina. Anteriorly the cavity freely communicated with the auditory canal and tympanum by several large round openings. The cavity was plugged with iodoform gauze and the flap was readjusted. The unhealthy soft parts corresponding to the sinus in the base of the flap were cut away, leaving a large opening into the cavity. Under the microscope a small flake of the substance showed fat cells, a large quantity of cholesterine and amorphous débris with large flattened cells like those of squamous epithelium. There was a total absence of signs of caries, no fragments of bone or gritty particles being detected.

March 14th.—The cavity has been washed out with "red wash" and plugged daily. It is filling up with healthy granulations, and epithelium is advancing over it with remarkable rapidity from the opening into the auditory canal. The general health is excellent.

March 26th.—The cavity is now quite dry and the granulations seen through the speculum have disappeared. There is a certain amount of hearing to loud conversation, but the facial paralysis remains. The engraving, from a drawing by Mr. Burgess, gives a good idea of the extent of the cavity. The curved probe can be passed into it from the bony auditory canal and out of the external aperture.

April 6th.—The opening was closed by a simple plastic operation.

May 2nd.—The patient went to a convalescent home. The opening behind the ear was completely covered in. All discharge had ceased from the canal. The hearing for conversation was good. The girl's health and intelligence have markedly improved. She is cheerful and assists in the ward work, and her apathetic condition observed on admission has quite disappeared, the change in the mental condition seeming, indeed, the most striking peculiarity about the case.

Stratford-place, W.

ARTHRODESIS OF THE ANKLE-JOINT IN TALIPES VARUS DUE TO INFANTILE PARALYSIS.

BY EDWARD COTTERELL, F.R.C.S. ENG.,

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ARTHRODESIS, or the establishment of ankylosis in a healthy joint, with the idea of converting a yielding and flail-like limb into one which will bear the weight of the body and be useful for locomotion, is an operation which has lately attracted the attention of surgeons both in this country and abroad. Within the last twelve months my colleague, Dr. Wallis Ord, has kindly placed three children suffering from paralytic talipes varus under my charge at the West-end Hospital for Paralysis. Of these cases the knee was only affected in one patient and in that one not badly enough to warrant resection of the joint. When the first case came under my care I thought excision of the ankle-joint a rather severe measure, as it would necessarily retard the growth of the limb from grave interference with the lower epiphyses of the tibia and fibula. On considering the matter I came to the conclusion that, as the joint in these cases is not diseased, it would be possible to cause an ankylosis without removing the amount of bone, such as is generally done in an ordinary resection. The operation, which I have devised and have now practised in three cases, is as follows: An anterior incision is made over the joint from one malleolus to the other, the dorsalis pedis artery being divided and both ends tied. The tendons of the extensor proprius hallucis and tibialis anticus, as also those of the extensor communis digitorum, are divided, sutures being previously passed above and below the line of incision, to facilitate their being reunited when the wound is closed. The anterior tibial nerve is treated in the same way. The joint is then well opened and the astragalus dislocated forwards. The whole of the articular cartilage of the upper surface of the astragalus is now removed with a probe-pointed knife, as well as the cartilage from the inner and outer facets, where the malleoli articulate. The lower articular surfaces of the tibia and fibula are treated in the same manner, the articular cartilage being removed from the two malleoli. No particular care is taken to cut a smooth surface; in point of fact the pseudo-articular surfaces are purposely left rough. Having thus cleared away the whole of the articular cartilage, the cut tendons are united, the nerve sutured, and the skin wound brought together *secundum artem*. The limb is put up on a splint for three or four days in an everted position, after which time it is treated with a plaster of Paris splint for three months. Even after this time it is wise, in the case of children, to have a well-fitting boot made with side supports, which should be worn for another twelve months, or until one may fairly assume that firm bony union has occurred. I claim the following advantages for this method of resection of the ankle-joint: (1) It interferes very little with the growth of the leg bones, as the epiphyses are not removed; (2) by leaving the malleoli, good lateral support is maintained, a very essential thing in the class of cases for which the operation is recommended; (3) the operation is easy to perform and is not at all dangerous; (4) the result, as regards power of locomotion afterwards, is very good; (5) expensive and cumbersome apparatus can be subsequently dispensed with.

West Halkin-street, Belgrave-square, S.W.

A CASE OF NOCTURNAL SPASM OF THE LARYNX IN AN ADULT.

BY GEORGE HERSCHELL, M.D. LOND.,

PHYSICIAN TO THE NATIONAL HOSPITAL FOR DISEASES OF THE HEART ETC.

CASES of this nature are of such extreme rarity that I feel I have an excuse for briefly recording one which I have had close opportunities of observing during the last few months. The patient whose case I am about to describe is a literary man thirty-six years of age of a markedly neurasthenic temperament. About ten years ago he suffered very severely for some months from dyspepsia, but recovered, and now he enjoys very good health in this respect. This dyspepsia was of the atonic form and originated in an exhausted condition of the nervous system brought on by overwork and worry. On physical examination he appears perfectly normal, the pupils and radial pulses being equal, the heart normal, and there being no abnormal pulsations, bruits, thrills, or dulness in the thorax. The patellar reflexes are normal, and there is no incoördination. He first noticed spasm of the larynx at night about eighteen months ago and at that period used to have at least two attacks a week. On more than one occasion two attacks have occurred in the same night. This state of things continued for two months, after which under appropriate treatment the attacks lessened in frequency and finally ceased. He was then free for several months. Having relaxed his hygienic measures he had another attack on March 30th, 1893, and again one on April 14th. This last one was the most severe that he had ever experienced and in it he very nearly lost consciousness. A typical attack occurs in the following manner: Having retired to bed in his usual health after having dined a little later than customary and over-indulged somewhat in the matter of cigars, he wakes at about 2 o'clock with a sense of suffocation due to a spasm of the larynx, which completely or almost completely prevents inspiration. This continues for a few seconds, when the spasm is partial the air being very slowly drawn into the larynx with a crowing sound. If the spasm be complete at first, it always partially relaxes after a few seconds and allows the air to slowly enter the lungs in the manner described. After nearly a minute the spasm entirely relaxes, but the larynx feels very sore and uncomfortable for an hour or two. During the attack the heart palpitates violently, and on examination by percussion directly afterwards the stomach is found to be tympanitic and evidently much distended. If the patient can bring up the flatus he is comfortable, goes to sleep at once, and has no more attacks that night. Very often, however, there appears to be a spasmodic condition of the orifices of the stomach which prevents the passage of flatus either upwards or downwards. Under these circumstances the patient is afraid to

go to sleep, but probably does so from sheer exhaustion and most likely has another attack before the morning. As a rule he has been lying on his back when an attack has taken place.

Spasm of the larynx or laryngismus stridulus is of very rare occurrence in the adult, and the text-books of medicine have very little to say about it. Neither Fagge nor Osler mentions it at all, and Taylor simply says: "This occurs most frequently in connexion with laryngitis, œdema of the larynx, paralytic conditions, or the presence of foreign bodies; it may also be a danger in epilepsy, tetanus, hydrophobia, or chorea. The entrance of saliva or of small particles of food or drink into the larynx may cause most dangerous spasm, and a certain amount is often induced by the application of medicated solutions to the mucous membrane of the larynx. Apart from these causes it is most often the result of hysteria. Bosworth,[1] however, a recent American writer, gives a very good account of the condition and reports several cases due to reflex irritation proceeding respectively from deflected septum, hypertrophic rhinitis, nasal polypus and chronic pharyngitis. The conclusions at which he arrives are as follows: It does not ordinarily involve any danger to life. In most instances it is purely reflex. There must be a somewhat abnormal irritability of the nervous system as a predisposing cause. It may be excited by the entrance of food or other foreign substances into the larynx. It is usually reflex to some diseased condition of the larynx or other portion of the upper air tract. He considers that the irritation generally proceeds from the larynx itself and that the mouth breathing caused by the nasal stenosis produces sufficient irritation and dryness of the laryngeal mucous membrane to start the reflex impulse which initiates the laryngeal spasm. Bosworth does not mention reflex irritation proceeding from the stomach as a possible cause, and I am unable to find it given as such in any medical work with which I am acquainted. My case therefore has a certain interest insomuch as the attacks were certainly excited by the presence of undigested food in the stomach, although the tobacco-smoking probably predisposed to them by rendering the larynx more irritable. In forming an opinion in a case of this kind there are several possibilities to be borne in mind: (1) That it might be of an epileptiform nature; (2) that it might be a laryngeal crisis in commencing tabes; (3) that it might be due to pressure from an aneurysm; (4) that it might be simply caused by the entrance of saliva into the larynx. At one time I was under the impression that the last might have been the cause, but as the attacks occurred when the patient's head was placed in such a position that any saliva which was secreted ran out on to the pillow, and as on one occasion, to make sure, he slept all night with a dentist's saliva ejector in his mouth and yet had two attacks that night, I was forced to abandon the hypothesis. The time that elapsed and the improvement under treatment negatived the idea of aneurysm. In the laryngeal crises of tabes there are usually other signs present, such as loss of tendon reflex and abnormalities of the pupils, which would lead to a correct opinion being formed of the case.

Queen Anne-street, W.

THE TREATMENT OF MYXŒDEMA AND CRETINISM.

BY G. R. MURRAY, B.A., M.B. CANTAB., M.R.C.P. LOND.,
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A LARGE number of cases of myxœdema and several sporadic cretins are being treated at the present time by thyroid juice in one form or another, so that a few observations which have been made during the last two years in the course of treating eight cases of myxœdema may be of interest. So many successful cases have now been recorded that it is quite evident that in thyroid juice there exists a remedy for myxœdema and allied conditions. The normal thyroid gland supplies an "internal secretion" which is necessary to maintain the body in health. When, owing to disease or removal of the gland, a sufficient amount of this secretion is no longer formed a condition supervenes now well known as myxœdema, cretinism, or cachexia strumipriva. The intensity of the symptoms depends upon the amount of secreting tissue which is affected. In cases where the symptoms are only slight, part of the gland or an accessory gland is still supplying a small but insufficient quantity of the secretion. It has now been clearly shown that the same secretion obtained from the thyroid gland of some healthy animal, such as a sheep, a pig, or a cow, when injected beneath the skin or given by the mouth, can carry on the functions which were performed by the normal thyroid secretion before the gland was affected. One can thus remove the symptoms of these conditions by supplying what is wanting. In a similar manner one can supplement deficiencies in gastric, pancreatic or other glandular secretions by preparations of the stomach, pancreas or other gland of one of the lower animals. If one bears these facts in mind it is easy to adapt the treatment to any given case, and provided that no incurable degeneration has taken place one can restore the patient to a condition of health and prevent the gradual degeneration of the nervous and vascular systems which so frequently takes place in the later stages of myxœdema. The remedy has been given in various forms. For hypodermic injection I have always employed a glycerine extract of sheep's thyroid gland. This extract is composed of equal parts of thyroid juice, glycerine and a ¼ per cent. solution of carbolic acid. A drachm and a half of this extract is the product of one whole gland. It can be injected in doses of from five to fifteen minims; larger doses may cause local irritation. Since Dr. E. L. Fox and Dr. H. Mackenzie showed that thyroid juice could produce the same physiological effects when swallowed I have employed an extract of the same strength as the above, but without carbolic acid, for administration by the mouth. This can be prescribed in doses of from five minims to twenty minims in water and has scarcely any taste. Both these preparations have been made by Messrs. Brady and Martin each week, and as they are made in considerable quantities the strength is practically constant. This is important, as it enables one to give doses of uniform strength of a preparation which does not disturb digestion. Raw and lightly-cooked thyroid glands have been given with good results in a considerable number of cases, but there are some disadvantages in giving the remedy in this form. The glands vary considerably in size, so that a fraction of a gland is not pleasant to take; it is apt to set up gastro-intestinal disturbances and its administration has twice had a fatal result. A glycerine extract contains the active material which is required for the treatment, so that the rest of the gland is not a unform dose. The raw gland is not required and possibly may be harmful. Mr. Hurry Fenwick has employed thyroid juice expressed from the fresh gland mixed with water for hypodermic injection. Dr. Arthur Davies has used a powder which has been prepared by Mr. White. Dr. Vermehren has given the white precipitate which is formed by adding alcohol and thyroid extract. Each of these different preparations has been found to be capable of removing the symptoms of myxœdema.

The treatment may conveniently be divided into two stages. During the first stage the object is to remove the symptoms of the disease. In the second one has to maintain the patient in the condition of health which has already been reached. In order to prevent disappointment it is important to explain to the patient that the improved condition can only be kept up by a continued use of the remedy for the rest of life and that for the future some thyroid preparation must constitute part of the regular diet. The first stage of the treatment has to be carried out gradually and with care, for the alteration which takes place in the patient's condition is so great that in many cases it is not safe to attempt to bring it about rapidly. This caution must be exercised especially in cases which show signs of cardiac or vascular degeneration. In these very small doses should be given at first and the effect on the pulse carefully watched. Some patients have to be kept in the house or even in bed for a time so as to prevent any unaccustomed strain being put on the heart. Two of my patients, who had signs of cardiac degeneration before the treatment was applied, died of syncope after the symptoms of myxœdema had greatly improved, brought on by unusual exertion undertaken too soon, before the heart had been able to recover or had become accustomed to the altered conditions of the body. Such patients should only be allowed to take increased excercise by degrees. This stage generally requires from six to twelve weeks' treatment, according to the state of the patient. In six weeks this part of the treatment has been carried out by injecting the extract. It has been

[1] Treatise on Diseases of the Nose and Throat. 1892.

found most suitable to slowly inject from ten to fifteen minims twice or thrice a week beneath the loose skin of the back where it is not exposed to pressure, both syringe and skin being previously cleansed with a 5 per cent. carbolic acid solution. If flushing of the face or pain in the lumbar region occur the injection should be stopped. When the extract has been given by the mouth from the beginning small daily doses have been found to succeed best; thus at first from five to fifteen minims may be taken each morning in water two or three hours after breakfast. In one case a daily dose of ten minims in a few days accelerated the pulse from 80 to 120 and so had to be diminished to five minims. If, on the other hand, a single daily dose causes no improvement by the end of ten days or a fortnight, it may be given twice a day; thus Dr. Hawtrey Benson found it necessary to give fifteen minims twice a day to his patient in order to rid him of the symptoms. The changes which take place in the temperature, pulse, weight, appearance and sensations of the patient are all important guides as to the dose to be prescribed. In nearly all cases of myxœdema the temperature is subnormal, and a rise of temperature is one of the earliest signs of improvement. A sudden rise of temperature may be caused by too large a dose, unless there is some local change to account for it. Any undue acceleration of the pulse out of proportion to the rise of temperature is an indication that the dose should be diminished. Rapid reduction of the swelling and weight, headache, sickness and feelings of faintness or exhaustion have also been observed as the result of too large doses

As the patient improves, the temperature rises to normal, the swelling gradually disappears, the weight diminishes, the skin becomes soft, perspiration returns and the bodily activity is much increased. The mind becomes more active and the improvement which has taken place in the mental condition of the cases with insanity which have been recorded by Dr. E. Carter, Dr. Claye Shaw, Mr. Cecil Beadles and others gives good reason to expect that if the treatment is adopted in every case as soon as the condition can be clearly diagnosed the insanity of myxœdema will be prevented from coming on at all. In some cases menstruation has returned. After two or three months' treatment the hair begins to grow again and in one of my patients, who was quite bald, it has now grown seven inches in length. Another of my patients who first began to have the treatment carried out in April, 1891, at one time had no injection for thirty-one days, during which interval the temperature fell 2° and the swelling partly returned. At another time, during a period of 102 days, she had only one injection of twenty-five minims on the eighteenth day; at the end of this time she was almost in the same condition as she had been in before any treatment had been adopted, except that the new hair had not fallen out. Each time the symptoms rapidly disappeared and now she is kept quite well by a daily dose of ten minims of thyroid extract, when the treatment was renewed. At the commencement of the second stage one has to determine the smallest dose which will keep the patient in health. In this the temperature helps considerably, as I have found that the smallest dose which keeps the temperature up to normal, or, at any rate, above 97°, suffices to keep the patient well. When the extract has been injected, fifteen minims once a week has answered well, and in one case this dose injected once a fortnight was sufficient; in this stage, however, I prefer to give it by the mouth. Small daily doses by the mouth are preferable to larger doses at longer intervals, but when given in this way I have found that it is necessary to give in the course of each week three or four times as much as when it is injected, to produce similar effects. For example, a drachm of the extract taken by the mouth in six daily doses of ten minims each has been found to have just about the same

FIG. 1.

At commencement of treatment.

FIG. 2.

After six weeks' treatment.

effect as a weekly injection of fifteen minims, and the patient who did well on a fortnightly injection of fifteen minims now takes five minims each day by the mouth. When once the proper amount has been fixed the continuation of it is a simple matter. The following case illustrates some of the points to which attention has been drawn.

A man aged forty-four was sent to me by Mr. Fort, of Oldham. During the summer of 1889 the patient had a prolonged attack of diarrhœa in America; he lost flesh and was very thin at the end of the year. During the first half of 1890 he gradually increased in weight, but did not recover his strength. In August, 1890, when he returned to England his friends noticed that his speech was slow, his walking power was deficient and the hands were enlarged. At the beginning of 1891 these symptoms were more marked, the skin had also become dry and he felt the cold greatly. His condition was first recognised as myxœdema at this time. In August, 1891, he weighed 15st. 11lb. Since then he has increased gradually in weight, and two months ago he weighed 17st. 10lbs.

July 14th, 1891.—The patient complains of being sensitive to cold and of a disinclination to go out or to see strangers. The face is swollen and expressionless, the swelling being most marked in the eyelids and cheeks and beneath the skin. The eyebrows are slightly elevated and the forehead is transversely wrinkled. There is a flush on each cheek, but the lips are pale. The body, as a whole, is rather swollen, so that he cannot cross the knees nor stoop to lace his boots. The hands and feet are broad and swollen. The skin is dry and rough. He only perspires occasionally in bed or whilst walking in warm weather. The hair is in fairly good condition, but some of it has come out during the last year. The speech is slow and deliberate. The mental and bodily activity are both less than they were formerly. The temperature is about 1° below normal; the pulse is 70. The urine is acid, of specific gravity 1032 and contains one-eighth albumen. The appearance of the patient is well shown in the engraving, which was taken from a photograph by J. Bacon of Newcastle. The first stage of the treatment was carried out in six weeks by injections. During this time he had three drachms of thyroid extract injected in doses varying from ten to twenty minims. Thirteen injections were made, so that the average dose was nearly fifteen minims. By the end of the first week the swelling had visibly diminished and the temperature had risen. Unfortunately the fifth injection, given on July 23rd, caused a local inflammation with a rise of temperature to 100·4° F., and a scarlet erythematous rash appeared in patches on the arms and legs. The rash spread over these, then faded, and in a few days disappeared. An abscess formed at the place where the injection had been made. This was opened and soon healed; otherwise the symptoms of myxœdema steadily improved. By the end of August the improvement was so great that no one seeing him for the first time could tell that he had had myxœdema. The following will indicate his condition: There is no swelling of the face, which now has a natural expression, as the features are sharper and the natural lines of the skin are clearly seen. He has lost more than a stone in weight since the commencement of the treatment. The whole body has diminished in size, as, with exception of slight fulness in each supra-clavicular fossa, the myxœdematous swelling has disappeared from the hands, arms and trunk. He can easily cross the knees and stoop to put on his boots. The skin is soft and moist, the temperature is normal, the speech is much more natural, the urine contains no albumen. His appearance is well shown by the engraving from the second photograph. After this the patient returned home and the second stage of the treatment was continued by a fortnightly injection of fifteen minims. This was not quite often enough, and if the injections had been continued it would have been necessary to repeat them once a week. In November the patient began to take the extract by the mouth. He has taken regularly one drachm each week in daily doses of ten minims for five months. In January he wrote to tell me that his hair had grown more thickly than ever before and that he was "quite cured." I heard from him a few days ago that he still remains in the same excellent state of health.

Cachexia strumipriva following removal of the thyroid gland requires to be treated by thyroid juice, just in the same way as ordinary myxœdema. As the loss of the thyroid secretion, which is the cause of this condition, can so easily be made good, it follows that one of the great disadvantages of total thyroidectomy has be removed; and if the nature or the extent of the disease in an enlarged thyroid indicates its total removal the surgeon need no longer be deterred by the fear of incurable after-effects following the operation. When myxœdema is congenital or acquired early in life it is known as sporadic cretinism, and in this form also it has proved amenable to treatment carried out on the same lines as in the form in which it occurs in the adult. The good results which may be obtained are well illustrated by the cases which have been recorded by Dr. Robin of Lyons, Dr. Vermehren of Copenhagen, Dr. Byrom Bramwell, Dr. Thomson and Dr. Carmichael of Edinburgh. The remarkable manner in which the myxœdematous symptoms have improved and the process of development has been renewed in these cases gives good grounds for hope that if thyroid juice is made an essential part of the diet of cretins from an early age they may be enabled to become much better developed and more useful adults than they possibly can otherwise. I see no reason why this treatment should not also succeed in cases of endemic cretinism if started early in life. One has as yet to find out what amount of improvement can take place in an adult cretin. I have a sporadic cretin aged twenty-three under observation who is taking thyroid extract, but it is too early as yet to judge of what amount of improvement will take place.

The increase in the general metabolism of the tissues which takes place in cases of myxœdema treated by this method, the results of which are visible externally in the improved nutrition of the skin and hair, suggests that thyroid extract may do good in other classes of disease, such as those affecting the skin. Dr. Byrom Bramwell showed a patient with psoriasis recently at a meeting of the Edinburgh Medico-Chirurgical Society who had improved considerably whilst taking raw thyroid glands. I have tested the action of thyroid extract in one case of psoriasis. The patient was first treated with arsenic internally and chrysarobin ointment externally. Considerable improvement resulted. The treatment was discontinued, but the disease soon began to return. He then took thyroid extract, but as long as he continued to take it the disease grew steadily worse. He rapidly improved, however, when the original treatment was applied again, so that in this case the thyroid extract was useless. I have also given the extract for some weeks without any benefit in one case of acromegaly.

Savile-place, Newcastle-on-Tyne.

PARAFFIN AS A NUCLEUS OF VESICAL CALCULUS.

BY DAVID WALLACE, F.R.C.S. EDIN.,
ASSISTANT SURGEON, ROYAL INFIRMARY, EDINBURGH.

THE importance of cystoscopic examination of the bladder is now so fully appreciated that it may be thought an act of supererogation to relate the following instance of its value; but, apart from the interest attached to the case from a cystoscopic point of view, I think it is of interest as being probably unique regarding the nature of the foreign body which constituted the nucleus of the calculus discovered.

A man aged forty-five years was recommended to me by a surgeon in the north of England. The patient was a highly nervous, intellectual man, a bachelor, and of sedentary habits. He stated that about a year previously, whilst he was carrying out some experiments with paraffin, he suffered from urethral irritation, a slight degree of pain about two inches from the meatus. Late one night, after he was in bed, he moulded a piece of paraffin into a cylinder, passed it along the urethra to the seat of irritation, and, without withdrawing it, fell asleep. On awakening in the morning he failed to find any trace of the paraffin, but suffered no inconvenience, and before long forgot all about the incident. Two or three months later he had some bladder irritation, evidenced by slight discomfort during movement, and an increase in the frequency of micturition. Further, he noted that now and then during micturition the stream of urine was suddenly stopped coincident with a feeling of something striking the neck of the bladder. Later, as the frequency continued and some pus appeared in the urine, he consulted a surgeon, to whom he told the above history and asserted that being quite cognisant of all the symptoms of stone in the bladder (he had studied medicine), he was satisfied that he suffered from stone. He was carefully sounded, but no stone was detected. He afterwards consulted two other

surgeons, to whom, however, he merely stated the symptoms from which he suffered without informing them of the paraffin bougie episode; by them he was treated medicinally, but his condition did not improve, and on the recommendation of the surgeon first consulted, about one year from the time when he introduced the paraffin, he came under my care. He then suffered from frequency of micturition, during both night and day, slight pain at the point of the penis and sudden stoppage of the stream. The urine was slightly acid and contained some pus cells and oxalate of lime. On Oct. 9th, 1892, I injected eight ounces of boric lotion and examined the bladder cystoscopically. The bladder wall was not rugose or inflamed. There was seen lying on the floor an elliptical body, in size and shape resembling a walnut, slightly tuberculated on the surface and of a white-grey colour—probably a phosphatic stone. On attempting to touch it with the cystoscope it moved very readily and no click was elicited. It was obviously of low specific gravity. Indeed, using the cystoscope as a sound, I could not be sure that any foreign body was present, and had therefore to rely entirely on the cystoscopic appearances and history to guide me to the diagnosis of stone. Litholapaxy was performed in the usual way, but at the outset there was great difficulty in grasping the stone. After one or two unavailing trials I, after separating the blades and allowing the female blade to rest for nearly a minute at the lowest part of the bladder—until all motion in the fluid had ceased and the calculus had time to fall down,—slowly pushed the male blade down so that as little motion in the fluid as possible was produced. In this way I succeeded in grasping the calculus. When caught and the blades further approximated the stone broke with a slight crackle, due apparently to a thin phosphatic shell giving way. The paraffin nucleus was squeezed between the blades, part of it breaking off. On attempting again to separate the blades they were more or less fixed and required a little force to separate them. No masses were caught after repeated trials on the same principle as above described. I therefore withdrew the lithotrite, to the blades of which a mass of paraffin more or less drawn out was adherent. With the evacuator a quantity of phosphatic débris was removed and several small portions of paraffin. To judge from the portions of the phosphatic shell removed it was about one-sixteenth of an inch in thickness. Two days later I again examined the bladder with the cystoscope, and detected a small portion of paraffin the size of a horse bean, which, after much trouble, I caught with a small lithotrite and removed. The patient suffered no bad effects from the above procedures and is now, six months after litholapaxy, in good health with no urinary trouble.

I deem the case an interesting one (1) inasmuch as sounding failed to discover a calculus which was afterwards easily detected by cystoscopy and (2) because of the especial difficulty in crushing due to the low specific gravity of the foreign body. At all times the procedure above described is the best by which to grasp a stone with the lithotrite, or by lithotomy forceps when the bladder is opened by the perineal route, but in the above instance a longer interval than usual had to elapse between the separation of the blades and their closure.

Northumberland-street, Edinburgh.

GUY'S HOSPITAL CLUB'S UNION.—On the 3rd inst., at the invitation of the president and treasurer of the Guy's Hospital Club's Union and Mrs. Durham and Mrs. Brailey a distinguished company numbering some 800 persons assembled at Honor Oak Park to celebrate the opening of the Club's Union Ground and Pavilion. Cricket and tennis matches were played between past and present students, in the former of which the seniors were defeated, whilst in the tennis they proved victorious. The play in both games, however, was good and proved interesting to the spectators. The band of the Scots Guards performed a selection of music. During the afternoon Mrs. Durham unfurled the official flag of the Union and Mr. Durham in a brief speech declared the ground and pavilion open amidst general cheering. The visitors expressed great satisfaction with the picturesque situation of the field, which certainly appeared to be much more in the country than the ten minutes' ride in the train from London Bridge would have suggested. Those who inspected the dressing-rooms, shower baths and lavatories in the Pavilion congratulated Mr. Woodd, the architect, on the completeness of the arrangements.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL AND THERAPEUTICAL.

CASE OF PERNICIOUS ANÆMIA TREATED BY TRANSFUSION; RECOVERY.

BY W. G. EVANS, L.R.C.P. EDIN., L.R.C.S. IREL.

As the treatment of pernicious anæmia is so often unsuccessful, I think a few notes of the following case may interest some of your readers. The result of transfusion, although delayed until the patient was on the verge of dissolution, was so remarkable as to encourage the hope that when performed earlier, before the vital powers are much impaired, this operation may give most satisfactory results.

A married man aged twenty-eight, a carpenter and builder, consulted me on August 3rd, 1892, complaining of weakness, excited action of the heart and shortness of breath on exertion. He had been extremely pale for several months before. A soft mitral systolic murmur was the only abnormal sign detected in the chest. The temperature was 98·4°, the pulse 96 and respiration 27. The urine was normal. Quinine and nux vomica were prescribed without success. On the 14th he was much weaker, the pulse being 120 and anæmia very marked. Vomiting was troublesome and he was unable to leave his bed. Seven and a half minims of Fowler's solution were given and gradually increased to twenty-two minims daily. After three weeks he was able to walk out a little; he went to the seaside for change of air and returned to work early in October. On Nov. 12th he again consulted me for a recurrence of the same symptoms. The skin was very pale. The temperature was 98·4°, the pulse 120 and respiration 27. There were loud systolic murmurs at the base and apex of the heart. Weakness was excessive and he was quite unable to work. Blaud's pills were prescribed, but discontinued after a few days as he was unable to swallow them, and he was again put on Fowler's solution, the dose being very gradually increased to thirty-four minims daily. These large doses were continued for two or three weeks and then gradually lessened. They were discontinued on Jan. 8th, 1893, when a severe diarrhœa set in, which resisted all treatment for several days and gave considerable trouble until the end of the month. There was a slight improvement whilst he was taking the large doses of arsenic, and he was able to sit up for a few hours every day; but after the onset of the diarrhœa, as the arsenic had to be discontinued, he rapidly lost strength. On Feb. 14th the temperature was 103°, the pulse 130, and respiration 36. There were intermittent action of the heart and enlargement of the spleen. Vomiting became so frequent that little food could be retained, and muscular twitching was so bad that he could not feed himself. His sleep was disturbed from the same cause. There was blood constantly in the mouth, and his speech was altered and muffled. It was now apparent that he could not live many days unless something further was done for him. On Feb. 20th, Mr. Willcox, of Warminster, kindly assisting me, we performed transfusion, injecting five and a half ounces of defibrinated blood with three ounces of a 2 per cent. solution of phosphate of soda, and using Lane's saline injection apparatus. Severe vomiting occurred whilst the fluid was being injected. Six hours afterwards blood appeared in the urine, but disappeared next day. On the 21st the temperature was 100°, the pulse 120, and respiration 20. There had been no vomiting since the operation, and there was no bleeding from the gums. On the 22nd his condition was the same, and he had an incessant dry cough. There were no bronchial râles. On the 24th the temperature was 99°, the pulse 108, and respiration 22. The mucous membrane of the mouth was improved in colour and the cough better. There was no vomiting and no hæmorrhage. I now gave him one-twenty-fourth of a grain of arsenious acid hypodermically every morning and ten grains of citrate of iron and quinine twice daily, with some pancreatic emulsion, as he was unable to take cod-liver oil. His diet consisted chiefly of beef-tea and milk and sandwiches of raw meat. On this treatment he gradually increased in strength and weight, gaining on an

average 4 lb. weekly, was able to go out in a Bath chair on March 20th, could walk a mile without resting on April 1st, and has now gone to the seaside.

Beckington, Bath.

LABOUR COMPLICATED BY PLEURITIC EFFUSION.

BY F. W. GUNN, M.B., B.S., L.S.Sc.DUR., M.R.C.S.ENG. &c.,
LATE HOUSE ACCOUCHEUR, KING'S COLLEGE HOSPITAL, LONDON.

FIVE WEEKS ago I was summoned at 3 A.M. by a midwife who, growing alarmed at her patient's increasing weakness and non-delivery, thought fit to call a medical man. I found the patient totally collapsed, having been in labour some hours. The pains were described as short and very painful. My first object was to deliver the patient, which, after energetic stimulation with ether and brandy, I easily effected with long forceps. After completion of labour I gave more stimulants and some ergot, leaving the patient about 6 A.M. seemingly all right. The next day I was sent for urgently, owing to her being in great pain, with weakness and fainting. I found her as described; the pain was said to be in the left side (hypochondriac region), and she had also flushing of face, shortness of breath, slight cough, and a temperature of 103°. On examination of the chest I found signs of left pleurisy with effusion to the level of the third rib. I was then told that she had been short of breath and had had some cough and pain in the side for a few days. In spite of the dyspnœa and slight cyanosis I thought fit to postpone aspiration till the patient's strength was improved; so I applied a turpentine stupe, gave a stimulating mixture and ordered hot fomentations well sprinkled with belladonna and opium. On the third day there were dyspnœa and great weakness, but the patient was free from pain, her temperature being 103°. The following day the temperature was 103·5°. I again postponed aspiration in the hope that the patient's strength would rally. The next day the temperature was 104° and the patient being stronger, I aspirated with full antiseptic precautions and removed 25 oz. of sero-purulent fluid, which relieved her at once. The same night the temperature fell to 99° and the breathing became easy, the heart having regained strength. Since then the lung has expanded well, no reaccumulation of fluid taking place, but signs of thickened pleura remaining. The child died when four weeks old from erysipelas of body and head, gangrene of one toe and symptoms of meningitis. The lochia were very scanty all along, but inoffensive. I ascribe the inability of natural delivery to the pleuritic fluid (doubtless present at the onset of labour, though undiscovered at the time owing to my desire to deliver rapidly) preventing uterine contractions or rendering their propulsive efforts useless.

Widdrington, Northumberland.

GLYCOSURIA AND AMMONIACAL FERMENTATION.

BY JAMES BAYS, M.D. LOND.

IN THE LANCET of Feb. 25th a paper was published on a case of Lactic Fermentation in the Bladder, by Sir William Roberts, in which, after discussing the non-appearance of cystitis in a diabetic patient who had used a catheter for five years, and the action of the germs of the various ferments in an organic liquid, he states that "in a non-saccharine urine the issue of the conflict is always in favour of the ammoniacal ferment, but if the urine be saccharine the issue is *always* in favour of the acid fermentation. This point was proved experimentally in the laboratory." That the issue is not always in favour of the acid fermentation and that the results of laboratory experiments are not always verified in the human body the following case will, I think, prove.

A gentleman of over eighty years of age has been under my care for the last eight months suffering from diabetes and having all the symptoms of the disease: great thirst and passing a large quantity of urine of a specific gravity varying from 1030 to 1040, with an acid reaction and giving a copious precipitate of copper suboxide with Pavy's test pellets. The patient's condition varied but little, though he became somewhat weaker, and the condition of the urine remained practically the same till the first week in April, when without any obvious reason the urine became turbid and on examination was found to have a highly offensive ammoniacal odour, was strongly alkaline to blue litmus paper and full of a thick ropy pus; at the same time there was a ready and copious deposit of copper suboxide with the test pellets. On April 7th I stopped the twenty grains of citrate of potash which the patient was taking twice a day, as I thought it might have had a slight though almost inappreciable effect in rendering the urine alkaline, and twenty grains of boracic acid were given three times a day. On the 8th the condition of the urine was no better, and on the 9th I went prepared to wash out the bladder, but found the urine had become clear and acid again without the slightest trace of pus. On the 15th the urine was in the same condition. Arsenic and hydrochloric acid were given as the patient's appetite was not good, and the boracic acid was stopped, but on the 19th the urine was again alkaline, full of pus corpuscles and crystals of the triple phosphate, highly offensive, and at the same time answering to the sugar tests, though not so quickly or with so great a deposit as when the urine was acid. Boracic acid was again given and on April 22nd the urine was again acid and free from pus, but contained large quantities of sugar. On the 25th there was no pus, much sugar, and a specific gravity of 1030.

From this case it will be evident that glycosuria does not always protect from ammoniacal decomposition in the urine, as the patient whose case I have related had two distinct attacks of cystitis with urine so alkaline as to be very ammoniacal when voided, and yet on both occasions the urine at the time was loaded with sugar.

Finchley-road, South Hampstead, N.W.

A RARE FORM OF STRANGULATED HERNIA.

By JOHN MEREDITH, M.D. EDIN.

A WOMAN aged fifty-nine, the wife of a labourer, was seen by me on April 11th late in the afternoon on account of severe pain in the abdomen, chiefly about the umbilical region. She was out at work on the previous day. I found no outward indications of hernia anywhere and no febrile condition, but the pulse was excited. On the following day her condition was reported to be better, so that I did not visit her on that day. On the 13th she was worse, the pain being more severe, and there had been no action of the bowels since the 10th, nor had any flatus been passed. Vomiting set in and it soon became undoubtedly fæcal. Warm water enemata, with gentle kneading of the abdomen, gave some relief from the pain and a few scybala were voided. There was no abnormality of temperature and the pulse was quick and irregular. Exhaustion followed and the patient died early on the 14th. The fundus uteri, when the enemata were being administered, was found to be acutely retroflexed and firmly held down by something against the rectum.

Necropsy.—On the fifth day after death Mr. R. Walter made a post-mortem examination for me. We found the omentum adherent in places to the walls of the abdomen and firm bands of fibrous adhesions existed in many directions. Mr. Walter, after dividing many of these bands, reached the end of the ileum and, following it upwards, came upon a firm band, at a distance of about ten inches, extending from the uterus to the sacral portion and constricting a loop of the intestine tightly. The piece of bowel when released from this showed that it had suffered. It was of a dark purple colour but not gangrenous, nor had it entirely lost its gloss. The small intestines were engorged and the large empty. About twenty years ago the patient suffered from a severe and prolonged attack of peritonitis after her confinement. The fundus uteri was found to be held down in its retroflexed position by a fibrous band.

Wellington, Somerset.

VOLUNTEER AMBULANCE SCHOOL OF INSTRUCTION.—A prize competition was held at the "Artists" headquarters on the 4th inst., when for the Lord Mayor's prize four candidates were selected from a squad of the 24th Middlesex, who, out of a possible 240, gained 227 marks. For the second prize, given by the School and Colonels Bruce and Lucas, a mixed squad competed, four of whom gained 221 marks out of a possible 240. For individual prizes, given by the School and Mr. T. Dixon, two competitors distinguished themselves, who gained 59 marks each out of a possible 60.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Procemium.

MIDDLESEX HOSPITAL.

TWO CASES OF CIRCULAR URETHRORRAPHY.

(Under the care of Mr. PEARCE GOULD.)

To the surgeon conversant with the after-history of cases of stricture consequent on a traumatic rupture of the urethra, who appreciates the perpetual anxiety which such is to the patient and the difficulty there is in overcoming the constant tendency to contract, a method of treatment which promises a more satisfactory result will commend itself. For some years the treatment by means of incision down to the urethra and suture of the ends has been tried with considerable success, but it has not yet been fully adopted as the best method, and these cases will bring it more prominently before our readers and show its advantages over the older method. Mr. Gould in one case made an incision into the bladder to direct the stream of urine, and we have seen incision made into the urethra behind the point of rupture, a catheter being passed into the bladder and the stream thus directed; neither expedient, however, appears necessary. In 1887 Mr. Wright of Manchester sutured the urethra in a case where it had been divided in an open wound. Dr. Vincent of Lyons in the same year resorted to immediate suture. Other cases have been published in which varying success was met with. Sometimes primary union has been obtained; occasionally a bad stricture has, nevertheless, resulted (probably in consequence of yielding of the stitches in sloughing) and been subsequently excised with benefit. There is no doubt that immediate suture, which in some cases of complete rupture has been tried with such success, and which in no case appears to have caused harm, should be usually resorted to.

CASE 1.—A boy aged eleven years was admitted into the Founder Ward on Sept. 9th, 1886, and it appeared that on the evening of Sept. 8th, when trying to walk on the back of a seat, he fell astride it, striking his perineum. The boy had passed a little urine several times after this accident before his admission to the hospital on Sept. 9th at 7 P.M. There was considerable swelling in the anterior half of the perineum and scrotum, with ecchymosis of the skin, and the bladder was distended to two inches above the pubes. The boy's pulse was 120 and he was in considerable distress. At 10 P.M. (about twenty-seven hours after the accident) Mr. Gould operated. Finding it impossible to pass a catheter into the bladder he cut down upon the end of this instrument along the median raphé of the perineum for about two inches, and found a complete transverse rupture of the urethra in front of the triangular ligament; the ends of the urethra were surrounded by a firm blood-clot which was kept in position under the superficial perineal fascia. A catheter (No. 6) was then passed all along the urethra into the bladder and the two ends of the torn urethra were united by several fine sutures. The bladder was now opened above the pubes, and although the viscus was empty and there was no guide in it, it was quite easy to perform supra-pubic cystotomy. A catheter having been fastened in above the pubes, the one in the urethra was withdrawn and the perineal incision was brought together with two or three sutures.

Sept. 13th.—Perineal wound appears to be soundly healed.

16th.—The boy passed urine freely through the penis to-day; catheter above the pubes removed. A very small orifice was found in the perineal cicatrix, being just enough to make the part damp when he passes urine.

20th.—More urine has escaped through the perineal fistula. An unsuccessful attempt to pass a catheter along the urethra was made.

25th.—An anæsthetic was given and with the help of Wheelhouse's gorget a catheter (No. 6) was passed and tied in.

The boy was discharged from the hospital on Nov. 17th with both wounds firmly healed, being able to pass urine in a good full stream and to pass a bougie (No. 8) without difficulty. He was told to continue to pass the bougie once a week. He was seen a year later, when he passed urine easily and the No. 8 bougie could be easily passed into the bladder, but the induration of the scar in the urethra could still be felt.

CASE 2.—A man aged forty-one was admitted into Pepys' Ward on Feb. 1st, 1893. Whilst cleaning a fanlight over a door the ladder on which he was standing slipped and he fell astride an iron railing. On getting up he felt a desire to pass urine, but as on attempting to do so he passed blood from the urethra he came at once to the hospital. On admission the man, who was formerly a potman and had always been a heavy drinker, smelt strongly of alcohol. The scrotum was distended to the size of a cocoanut and was greatly ecchymosed, the anterior perineum being also swollen, and blood flowed freely from the penis. The bladder was not distended, and a catheter could be passed only as far as just behind the scrotum. At 6.30 P.M. an incision was made in the median raphé of the perineum on to a staff, giving exit to a quantity of fluid and clotted blood, and the urethra was seen to be completely torn across. A Wheelhouse's gorget was introduced into the deep end of the urethra, and a catheter (No. 8) was passed from the meatus into the bladder, and was tied in and plugged with a spigot. The bladder was found to be empty. The ends of the urethra were drawn together by a silk suture on each side, being passed through all but the mucous lining. A free incision was made into the scrotum on each side and the blood and urine which infiltrated it were pressed out. A large dressing of alembroth wool was bandaged firmly over the part and the man was returned to bed. At 9 P.M. a pint of blood stained urine was withdrawn through the catheter. At 12.45 A.M. the dressing was found to be soaked and had to be renewed.

Feb. 6th.—All urine has been passed through the catheter and has contained blood in diminishing quantity until to-day, when only a very faint blue colour is to be obtained with the guaiacum test. The deep part of the perineal incision has healed by first intention. The scrotum is of its normal size.

11th.—The catheter was removed and replaced by a No. 11, which passes easily.

12th.—The catheter was removed and the patient allowed to pass urine naturally.

23rd.—A silver catheter (No. 12) passes easily into the bladder. The patient left the hospital on March 4th with all the incisions soundly healed and passes urine with a full stream. He has since attended as an out-patient and up to the present no difficulty has been experienced in passing a No. 12 catheter.

Remarks by Mr. GOULD.—The above cases of circular urethrorraphy are recorded as examples of what I believe to be an improved method of treating traumatic rupture of the urethra and as affording suggestions which may be of service in other morbid conditions of that canal. Rupture of the urethra from external violence is rightly regarded as a very serious accident, not only on account of the widespread urinary infiltration that may occur, but chiefly because a circular cicatrix of some length and involving all the coats of the urethra, and possibly some of the tissues outside it, intervenes in the mucous canal and forms one of the most intractable of strictures. The first danger is averted by early operation and sufficient incisions; and the second perilis to be averted by lessening the length and thickness of the urethral cicatrix. In the first of the cases recorded above circular urethrorraphy was decided upon on the spur of the moment without the advantage of careful preliminary thought, and the details of the treatment were obviously capable of much improvement. It is not recorded as an ideal operation, but merely as the first case in which I practised the suture of a transverse tear of the urethra. In the second case some of these errors were corrected and I think it must be regarded as a satisfactory result of the operation, which should encourage further trial of it. These cases show that surgeons may hope to obtain primary union of the transversely divided urethra. Although the result of contusion, the wound of the urethra is of the nature of an incised wound, being clean-cut. In operating the ends are found to be widely separated, but they are easily approximated without any undue tension on the sutures. Two, or at most three, sutures will suffice, and they should not include the mucous membrane. In another case I should be inclined to suture a torn ejaculator urinæ muscle and put one or two stitches in the skin to secure apposition of the edges without tight closure of the

wound. The cystotomy in my first case was quite unnecessary. Circular urethrorraphy is evidently capable of a wider application than in these cases, for it enables a surgeon to excise a hopelessly strictured portion of the urethra and to unite the two ends. This has already been done in America. In the February number of the *Annals of Surgery* Dr. T. H. Manley of New York records two cases of old-standing strictures which he cut completely out and afterwards united the two ends of the urethra with catgut sutures. Both cases did well. This operation was suggested to Dr. Manley by Dr. Wm. Wile of Danbury, Conn., who had employed it in a case of rupture of the urethra from a fall across a cart-wheel. I was not aware of either of these cases when I operated in February last, and as I have not previously published the first case here recorded Dr. Wile cannot have taken the idea from me. Suture of longitudinal wounds of the urethra was recommended by Mr. Sheild in an interesting paper published in THE LANCET of Oct. 20th, 1888. I am indebted to Mr. Hulke, for whom I was acting at the time, for permission to publish the notes of Case 1.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

The Immediate Effects of Excessive Muscular Exertion.—Cystic Uterine Myoma treated by Enucleation.

AN ordinary meeting of this Society was held on May 9th, the President, Sir ANDREW CLARK, in the chair.

Dr. CLEMENT DUKES read a paper on the Immediate Effects of Excessive Muscular Exertion. He desired to place on record the immediate effects of sudden momentary severe exertion on the young human being as well as those arising from prolonged exertion. Under the latter heading he gave the symptoms of the various degrees of distress, including those in a case where death occurred whilst in the act of running. On post-mortem examination all the organs were found to be healthy, but there was disintegration of the blood. Dr. Dukes, having referred the case to Dr. Michael Foster for his interpretation, appended his notes with his permission.—Dr. BROADBENT referred to the interest and importance of the paper, for besides the occasional fatal effects and the well-known injury to structure produced by violent muscular exertion there were other results worthy of attention. All were familiar with the temporary dilatation of the heart common after exertion, which in older subjects sometimes became permanent, with damage to the aorta and to the cardiac valves. With the change in the blood one was also to some extent familiar from observations made on hunted animals, the blood being very dark and fluid and the flesh unduly tender and prone to decomposition. The non-fatal case recorded was as interesting as the fatal one, and it suggested a direct effect on the nervous system as well as an effect on the blood; the vomiting certainly appeared to be of cerebral character. Nevertheless it appeared that the real danger lay in the change in the blood. In minor cases some degree of this blood disintegration might occur which, though it did not prove at once fatal, might cause damage to the whole constitution (which had hitherto been assigned to other reasons), affecting the glandular and other organs and causing serious deterioration of health. This might account for an otherwise unaccountable breakdown in the health of sound-looking men.—Mr. GOLDING-BIRD could but hope that the expression "disintegration of blood" used by Dr. Broadbent would not be adopted as a descriptive term. He was not able to produce any scientific evidence that the blood did disintegrate, and nothing had been suggested further than that disintegration products had been poured into the blood. Cases such as that related were not new, nor was the scientific investigation of them, for Haller in 1760 had referred to precisely similar instances and he explained them all by humours poured into the blood. Haller referred to "acrid blood, acrid urine, and sometimes death" as results of exertion; and one now, more precisely, named the substance sarco-lactic acid. Saussier had taken blood from an over-exerted animal and injected it into a healthy dog, producing gangrenous pustules and malignant fever. The death in the case related was clearly due to ptomaine poisoning rather than to lesion of the nervous system or to asphyxiating influence. A man starting to run, if he ran carefully, would get what was called his "second wind"; this meant probably a tolerance by the system of the effete material poured into the blood from the muscles and an increased action of the kidneys and eliminating organs.—Dr. HUNTER said that it was new to him that cases of this kind had been recorded before. The essential point in the paper was that something over and above what was recognised as fatigue products was formed in the blood under severe and continued exercise. If hæmoglobin was exposed to a saturated solution of carbonic acid something was produced which was not quite akin to reduced hæmoglobin, for the addition of oxygen would not bring it back to the condition of oxy-hæmoglobin. On the contrary, it was a retrogressive change in the hæmoglobin, and this change occurred also in the stroma of the corpuscle and in the plasma of the blood. Whilst he admitted that the diminished alkalinity of the blood during violent exertion was associated with an excess of sarco-lactic acid and perhaps with failure of efficient action of the kidneys, he held that these alone would not explain the marked effects described by Dr. Dukes, which pointed to some more profound disintegrative change such as he had indicated. Part of the increased acidity was due to phosphoric acid, which was liberated from the lecithin of the disintegrating corpuscles. The whole of the symptoms were much like those of diabetic coma and had been produced artificially by the injection of large quantities of acid into the blood.—Mr. MORGAN wished to criticise the paper from the point of view of the practical athlete. He insisted on the necessity of hesitating to receive a theory founded on one particular case. In the instance which had been quoted of a boy who ran nine miles and then became faint and seriously ill it was not necessary to discuss obscure physiological effects, for there was an aspect of the case to which attention had not been paid. The boy was examined medically before the run and found to be sound. He then took a meal of vegetable soup with chicken, pickled cabbage, apple tart and water. It could not be expected that any boy in or out of training could run on a meal like that. The blood changes described might be real, but he could not help thinking that the stomach condition had something to do with the fatal result. No doubt school runs should be varied according to the age of the boys; but, on the whole, they were most advantageous and he protested against too much weight being placed on one unfortunate case.—Dr. NORMAN MOORE asked whether the blood was examined microscopically and, if so, what was the state of the corpuscles. He also asked whether the acidity of the blood had been determined and whether the muscle had been histologically examined. Seitz of Zürich, who had discussed the results to muscle of sudden over-exertion, had pointed out that unsuspected changes in heart-muscle often accounted for serious symptoms. He inquired whether the boy had any rheumatic symptoms which called for an examination. This was possible, as his brother was at the time suffering from acute rheumatism and the patient himself might have had a myocarditis with slight joint pains.—Dr. WALLER desired to suggest an alternative supposition. He thought that the place which should be looked to for the greatest change was the brain itself. He was not content with the blood theory and he did not even know that there was definite proof that sarco-lactic acid was present in excess in the blood after exercise. The brain was an intensely labile organ, explosive changes took place in it in a rapid and intense fashion, and one should look for disintegration in the grey matter of the cortex rather than in the blood itself.—Dr. DUKES, in reply, said no one was a stronger advocate than himself of school runs, and ill results were usually the result of indiscretions. He had made no microscopical examination either of the blood or of the muscles. Professor Michael Foster, who had hoped to be present, reported that the experiments he was carrying on gave support to the view that the products of muscular exertion other than carbonic acid were of a poisonous nature and had a deleterious effect upon the composition of the blood.

Mr. ALBAN DORAN read a paper on a Large Cystic Myoma of the Uterus of over Twelve Years' Duration removed by Enucleation, and added some notes on Cystic "Fibroids." The history of the case was first given. The tumour, springing from the right side of the uterus, had dissected up the pelvic peritoneum. The cæcum lay on the uppermost

part of the tumour, close to the liver. The right round ligament was greatly elongated, so as to resemble a ureter. The relations of the right Fallopian tube and ovary were undisturbed, as the layers of the mesosalpinx were not separated. The cyst was removed with the uterus and both appendages. The development of cystic myoma was attributed to: (1) Breaking down of solid tissue from fatty or mucoid degeneration, or from local necroses (Uter); (2) dilatation of bloodvessels or blood sinuses; (3) dilatation of lymph channels. Lymphangiectasis was probably more frequent than hitherto believed, and obstruction of the lymphatics outside a tumour was very frequent. The alleged influence of electric treatment on development of cysts was referred to. The difficulties in diagnosis from ovarian tumour, especially when the cystic fibroid was pedunculated, were pointed out. The catamenial history and character of the fluid were often misleading. The dangers of the uterine sound in cases of cystic fibroid were insisted on. Tapping was dangerous owing to the rigidity of the cyst wall, the size of its vessels and the general vascularity of the solid tissues. The operation was more urgent than when the fibroid was solid; cystic fibroids seldom diminished after the menopause and frequently destroyed life within a short period. When sessile and burrowing into the peritoneal folds, as in the case in question, the difficulty in removing a tumour might be considerable. The stump of the uterus required especially careful after-treatment.

OBSTETRICAL SOCIETY OF LONDON.

The Lochia.—Hæmato-Salpinx.

A MEETING of this Society was held on May 3rd, Dr. G. E. HERMAN, President, in the chair.

Dr. GILES read a paper on the Lochia, giving the results of investigations on the quantity of them after labour. The conclusions derived from observations on sixty cases are as follows: 1. The average normal quantity of lochia is about 10½ oz. 2. The duration of the discharge is on the average nine or ten days. 3. The degree of parity does not influence the quantity. 4. Non-suckling does not increase the discharge. 5. The quantity is generally greater in women up to the age of twenty-five. 6. The weight of the child has a slight, and that of the placenta a well-marked, influence, the quantity increasing with the weight of the placenta. 7. The quantity increases with the amount of hæmorrhage at the time of labour. 8. The lochia are more abundant in the case of those who habitually menstruate profusely. 9. The quantity is generally great in the case of women of dark complexion. The difference between Gassner's results—viz., 52½ oz.—and his own—viz., 10½ oz.—is attributed mainly to the use of antiseptics and partly to the effect of astringent douching. The factors that influence the quantity of lochia were discussed. Dr. Giles believed that the three discharges—during menstruation, during labour, and during puerperium—varied simultaneously, the quantity depending on predisposing conditions, of which the amount of pigmentation was generally an index, and that all three discharges were habitually more profuse in dark women.—Dr. AMAND ROUTH thought the smallness of Dr. Giles's results was in great measure due to sources of error as regarded (1) evaporation from the pads, (2) admixture of lochia with urine during micturition and defæcation when the uterus was stimulated to contract and the vagina to empty itself, and (3) by the washing away of débris &c. by vaginal douches. Clots could be weighed, but débris and discharge thus removed could not. He proved from Dr. Giles's own cases by dividing them into three groups—(*a*) when the child weighed six pounds and a half, (*b*) between six pounds and a half and seven pounds and a half, (*c*) over seven pounds and a half—that the placenta weighed eighteen and a half, twenty-two and twenty-three and a half ounces respectively, showing that the relation between the weight of the child and that of the placenta was well marked. He pointed out that Dr. Giles's table hardly bore out his conclusion that the loss at labour varied as the habitual menstrual loss.—Dr. LEITH NAPIER agreed with Dr. Giles in his explanation of the difference between the results arrived at by Gassner and those mentioned by himself. He thought that the shorter time in bed and the non-use of the binder favoured, in Gassner's cases, the imperfect involution which would lead to a greater lochial discharge.—Dr. BOXALL's observations confirmed Dr. Giles's conclusions as to the duration of the lochia. He found, further, that fever unconnected with sepsis or pelvic inflammation was apt to prolong the flow. He suggested that a distinction should be made in future observations on the effect of non-suckling between those patients who had no milk and those who, having plenty of milk, would not or could not suckle. He pointed out that early cessation or partial suppression (so-called) of the lochia were in themselves favourable indications. He had already shown by experiment that in merely vaginal douches some of the fluid often reached the uterine cavity. He thought, however, that the temperature at which the douche was given had more to do with diminishing the lochia than the astringent had.—Dr. WHEATON thought the difference between Gassner's results and those of Dr. Giles were entirely due to the employment in the latter's cases of antiseptic douching, as by this means the irritation of the inner surface of the uterus by micro-organisms was diminished.—The PRESIDENT said that Dr. Giles's paper would enrich the Transactions by a contribution of permanent value, for it was a record of facts. Certain sources of error had been mentioned (which Dr. Giles had discussed in his paper). He (the President) did not think they could account for the differences between Dr. Giles's results and those of Gassner, for they must also have attended Gassner's research, and it would be interesting to know in which way Gassner had guarded against them. He (the President) thought the lochia came partly from the uterus, partly from the vagina. The vagina had to undergo involution as well as the uterus, it was greatly stretched and compressed during delivery, and such injury to a mucous canal would make it liable to inflammation. He did not agree with those who had said that puerperia in which douches were used were not natural. The douches, by destroying morbific germs, which produced disease, kept the lying-in "natural." It seemed to him that the variation dependent on the size of the child was about the same as that dependent on the size of the placenta and not much less than it, as Dr. Giles had put it.—Dr. CLEVELAND attached considerable importance to imperfect contraction of the uterus as a cause of increased lochial discharge.—Dr. GILES, in reply, thanked the Society for its kind reception of his paper. The small quantity of the lochial discharge had much astonished him when making the investigation.

Mr. LAWFORD KNAGGS read a paper on an Unusual Case of Hæmato-salpinx. A married woman aged forty-four began to menstruate at eleven. The discharge was a regular monthly one until August, 1891, when the quantity became variable. She had contracted syphilis and probably gonorrhœa fifteen years before from her husband. She had had four children, the last of which was born before the venereal symptoms appeared. In 1889 she had a sudden flooding on the day after menstruation had ceased. The discharge was of a deeper colour than menstrual blood and offensive. It lasted twenty-four hours and was succeeded by an offensive greenish-yellow discharge which lasted fourteen days and left no bad symptoms. She had pain in the left ovarian region. The next period was normal. She had a similar attack in 1891. Two periods due after this did not appear. She had caught cold during the attack and had shivering fits and much pain. On examination there was resistance and slight tenderness in the left ovarian region. The uterus was of normal size, pushed over to the right by a swelling in the left broad ligament and almost fixed. The swelling was of the size of a fœtal head, fixed only on account of its size and defined from the uterus by a sulcus. The right appendages were not clearly felt. A diagnosis of hæmato-salpinx was made. There was a dark green discharge still. In a week or two the tumour disappeared, leaving some thickening behind it. She was operated on and a mass the size of a small peach was found fixed to the left side of the pelvis, having the ovary behind and below it. It was found to consist of the thickened and dilated ampula and to contain a little muco-pus. The cavity was continuous with the Fallopian tube. Mr. Knaggs supposed that during menstruation blood collected in the tube, which was closed at the ostium abdominale and was already septic. When the swelling of the mucous membrane at the inner orifice of the tube disappeared after menstruation, the blood escaped and was followed by a purulent discharge from the tube and the abscess-cavity continuous with it. He considered that the tumour discovered was due to distension of the tube and abscess-cavity.—The PRESIDENT thought this explanation ingenious and plausible.

The following specimens were shown:—

Dr. HAYES: (1) Calculus and Hairpin removed from Bladder; (2) Soft Fibroid Tumour of Uterus removed by Abdominal Hysterectomy.

OTHER METROPOLITAN MEDICAL SOCIETIES.

EPIDEMIOLOGICAL SOCIETY.—This Society met on April 19th, Dr. DICKSON, R.N., in the chair.—Dr. S. A. MONCKTON COPEMAN read a paper on the Inter-relations and Bacteriology of Variola and Vaccinia. Seeking for some of the brute creation as *corpora vilia* in which to verify his observations on the bacteriology of vaccine lymph by a course of continuous experimentation inadmissible in the human subject, he searched the literature of vaccinia with little success. Vaccination of rodents, he found, gave no definite, and that of dogs, swine and horses very imperfect, results, whilst the phenomena following the few alleged and apparently successful cases of variolation of bovine animals were so different from those of small-pox as to justify the belief that the virus underwent an actual transformation and change of character. Monkeys, declared on high authority to be insusceptible to either variolation or vaccination, he found to be equally susceptible with man, the course and character of the phenomena in each case being identical with those observed in man. He then satisfied himself by a long series of permutation experiments that inoculation with any one of the viruses of small-pox, calf lymph or human lymph was equally protective against subsequent inoculations with any of the others, but also that local manifestations were not essential to the general constitutional effect. This conclusion was also further confirmed by the immunity occasionally observed in calves after apparently negative or unsuccessful attempts at variolation, in infants whose mothers had been attacked by small-pox in the latter months of gestation, and by his own experimental vaccinations with lymph that had been subjected to a temperature sufficient to destroy all the extraneous microbes and to render plate cultures with it invariably sterile. The result in these last cases suggested the presence of an antitoxin rather than of a living organism as the immediate cause, and that this might be contained in the blood serum of animals rendered immune. Carefully conducted intra-peritoneal injection of the pure plasma obtained by Tizzoni's method from the blood of a well-vaccinated monkey, proved to be insusceptible of subsequent vaccination of variolation, though appearing from control experiments to have produced some effect, failed entirely to confer any such power of resistance as to justify its adoption as a prophylactic measure—at any rate with man. Dr. Copeman then rapidly passed in review the different methods by which the virus, whether of variola or vaccinia, could be introduced into the system, such as puncture, scarification, subcutaneous injection, injection into the bloodvessels or lymphatics and absorption by the mucous membranes of the respiratory or alimentary tracts, and referred also to the general eruption occasionally though very rarely observed after vaccination, but frequently following intravascular or subcutaneous injections of the lymph. He next traced the history of variolation of the cow from the commencement of the century until last year, ending with experiments by Dr. Klein and himself. Whatever doubt might attach to some, especially of the earlier, attempts, and to those in which there was a suspicion of concurrent retro-vaccination, he was fully convinced that Badcock, Ceeley, Thiele and others in the past, as well as Voigt, King and, above all, Haccius within the last ten years, had repeatedly succeeded in transforming the lymph of typical variola into the best vaccine by successive transmissions through the bovine organism. In the earlier terms of such series it retained much of the virulence or activity of variola, but was even then essentially changed in being no longer communicable otherwise than by actual inoculation. In the cases on which the Lyons school relied in their denial of such transformation of variola into vaccinia the lymph or pus had not been absorbed and consequently was in no way modified; but the very same matter that had been inserted in the calf being afterwards inoculated in the child naturally reproduced unmitigated small-pox. Haccius's experiments were, however, absolutely conclusive and unimpeachable, and proved that vaccinia was but a modification of variola consequent on its cultivation in the cow. The experiments which Dr. Copeman had undertaken in these directions had, however, all been subsidiary to his primary aim—viz., the identification, isolation and pure culture of the specific micro-organism of vaccinia or variola. In this search he had not as yet been more successful than others, and the bacteria hitherto observed in lymph had been the usual saprophytes or identical with those attending suppuration. None were characteristic, but there were three, one or other of which was rarely absent—the staphylococcus albus, almost constantly present in the superficial layers of the skin; the staphylococcus pyogenes aureus; and, though more rarely, the staphylococcus of erysipelas. To the presence of the two latter the unfortunate results that in the past had been used to discredit vaccination were attributable. Unable to discover the essential microbe, he had turned his attention to the elimination of the extraneous aerobes, which, though present in inappreciable numbers in fresh lymph, gave by their subsequent proliferation the well-known opacity to and rapidly impaired the activity of stored lymph. He first tried the method of fractional heating, which Kitasato had so successfully applied in the isolation of the bacillus tetani, and found that a temperature of between 38° and 42° C. sufficed for the purpose, but sometimes acted unfavourably on the lymph itself. Previous observers had employed dilution with from a 50 to a 75 per cent. solution of glycerine simply as a means of increasing the volume and maintaining the fluidity of the lymph, but he claimed priority for the discovery that, so far from in any way lessening its activity, the addition of glycerine actually enhanced it, first inhibiting the growth and ultimately causing the extinction of all extraneous aerobic organisms. The potency of lymph thus diluted continued to increase for many months, whilst it remained permanently and perfectly transparent. MM. Chambon and Ménard and Professor Strauss had since, and in entire ignorance of Dr. Copeman's observations, confirmed them in every particular, and no less satisfactory were the results of recent experiments by himself and Dr. Armand Ruffer on the action of glycerine on cultures of the staphylococcus of erysipelas. In fact, the certainty with which this microbe, the most dangerous of the numerous extraneous microbes and one which grew with such facility in all kinds of nutrient media, could be exterminated was in these days, when persons were found to maintain that a moderate degree of erysipelas was inseparable from vaccination, an argument in favour of the more extended use of glycerine second only to that derived from the progressive improvement and intensification of the activity of the lymph.

HARVEIAN SOCIETY OF LONDON.—A meeting of this Society was held on Thursday, April 20th, Mr. MALCOLM MORRIS, President, in the chair.—Mr. ALBAN DORAN exhibited a series of specimens illustrating the Morbid Anatomy of Extra-uterine Gestation: (1) Uterus and appendages, from a case of interstitial or tubo-uterine gestation (Museum of the Royal College of Surgeons, Pathological Series, No. 4691); (2) Uterus and appendages, gestation in right tube, sac lying behind uterus and containing a three months' fœtus, with large placenta (ibid., No. 4694); (3) a Fallopian tube, with a small fœtal sac, case of fatal rupture, embryo found (ibid., No. 4695); (4) a Fallopian tube full of old blood-clot, which contained chorionic villi, removed after rupture (ibid., No. 4695 E); (5) Uterus and appendages from a fatal case of rupture of a tubal sac—three distinct attacks of hæmorrhage occurred, the third proving fatal (ibid., No. 4696).—Dr. BOXALL showed three specimens of Early Tubal Gestation which had been removed by operation. In one case rupture had taken place directly and the fœtal sac had become extruded into the abdominal cavity. In the other cases rupture had occurred between the layers of the broad ligament, the ovum had become apoplectic and the tube also distended with blood. In one of these cases secondary rupture had taken place through the posterior layer of the broad ligament into the abdominal cavity. In the first case the symptoms were pronounced and the history clear, the fœtus being alive at the time of the operation. In the other cases the symptoms were obscure. Though carefully searched for in the mass of altered blood-clot no trace of the embryo could be found; nevertheless, the clinical history distinctly pointed to their ectopic nature.—Dr. HANDFIELD-JONES brought forward the clinical history of six cases of Extra-uterine Gestation. The group of cases was of special value, as showing under what very different aspects the diagnosis had to be formed. In the first case the gestation sac had been situated in the tube near the uterus and had ruptured into the peritoneal cavity at the end of the eighth week, shock and the signs of internal hæmorrhage being the most marked signs. In the second case the sac had ruptured into the broad ligament, ripping up the peritoneal lining of the true pelvis and setting up the symptoms of pelvic peritonitis and septicæmia. In the third case the patient came with an abdominal swelling, which had been diagnosed as an ovarian or fibroid tumour, but which was

found on operation to be a very thick gestation sac containing a macerated five months' fœtus. The fourth case was one of nearly full-term gestation, in which the abdomen was opened and a living child extracted. The fifth case was a good example of primary rupture into the broad ligament, with secondary laceration of the posterior layer of the broad ligament and the formation of a large sac of fluid amongst the intestines. The last case illustrated the gradual absorption of a large hæmatoma caused by rupture of a gestation sac at the end of the third month. The question of the treatment of the placenta in advanced cases was discussed, and reference was made to the special form of poisoning due to absorption of decomposing blood.—Mr. ALBAN DORAN believed that one of Dr. Handfield-Jones's cases was similar to that from which the specimen No. 4694 in the Museum of the Royal College of Surgeons was taken. When the sac presented or came near the abdominal wall the operation was neither so difficult nor so dangerous, and when the sac was still pedunculated the operation was often quite easy.—Dr. CULLINGWORTH, alluding to the case in which clinical evidence pointed to tubal gestation, and in which rupture into the broad ligament, followed by secondary rupture into the peritoneal cavity, had occurred, called attention to the fact that no embryo or chorionic villi were discovered amongst the blood-clot. He believed Dr. Handfield-Jones was quite right in regarding that case as one of tubal gestation, notwithstanding the absence of positive proof. In regard to the treatment of the placenta in cases of advanced tubal gestation, he thought no definite rule could be laid down. In instances like the one alluded to in Dr. Handfield-Jones's paper, where the placenta was of enormous size, was adherent to various abdominal viscera, and was fed by bloodvessels of very considerable size, the only course seemed to be to leave it to undergo gradual atrophy, taking the precaution, of course, of shutting off by every available means the access of air.—Mr. LAWSON TAIT considered that in the second case the irrigation had been insufficient. He congratulated the speaker on being the second person within his knowledge who had diagnosed secondary rupture, and had in consequence operated for its relief. With regard to the practice of flushing with water, he apprehended no danger from the risk of rupture even when the sac was unusually thin. He objected to the term "extra-uterine" on the ground that occasionally gestation may occur interstitially, which is not strictly extra-uterine.—Dr. LEITH NAPIER, who had witnessed the operation on Case 5, agreed that Dr. Handfield-Jones had adopted the best method of procedure. In cases of advanced ectopic gestation he considered that operation after the death of the fœtus would give the best result. He referred to a case in which he had removed a seven months' fœtus nearly a year after the commencement of pregnancy. Death from hæmorrhage was more to be feared than sepsis. He concluded that in the early months of pregnancy it was best to operate as soon as the diagnosis could be made, but beyond the fourth month operation should, as a rule, be delayed until after the death of the fœtus.—In reply, commenting on Mr. Doran's case, Dr. HANDFIELD-JONES thought the only possible treatment was by emptying the sac and stuffing the latter with iodoform gauze. He failed to see what objection Dr. Cullingworth could have to flushing out thin-walled sacs after operation, as the intra-abdominal pressure which forced out fluids was also a safeguard against undue distension.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.—A meeting of this Society was held on April 17th, Mr. SHIRLEY F. MURPHY, President, in the chair. — Mr. LOCKE WORTHINGTON, A.R.I.B.A., read a paper on the Dwellings of the Poor and Weekly Wage-earners in and around Towns. Rapidly reviewing the past history of mankind, he came to the conclusion that in all countries and in all ages until within the last fifty years the homes of the poor had become unsatisfactory as the nations themselves advanced in civilisation. The Royal Commission in 1843 marked the commencement of a new era and led to the passing of a long series of Acts associated with the names of Lord Shaftesbury, Mr. Torrens and Lord Cross, which were consolidated by the late President of the Local Government Board, Mr. Ritchie, in the Housing of the Working Classes Act, 1890, and the Public Health (London) Act, 1891. Decentralisation of the population of large towns he (Mr. Worthington) held to be one of the greatest needs of the day, deploring the depopulation of rural districts and the increasing aggregation of humanity in industrial centres, where, despite sanitary improvement, the mortality, especially of childhood, was proportioned to the density of the population. He invoked State aid, if private efforts were found unequal to effect this dispersion of the working classes over the semi-rural zones around the great towns, by means of cheap trains at convenient hours, by the erection of cheap but healthy and attractive houses and tenements, not the subletting to two or more families of houses having domestic conveniences for one family only, and by facilitating the purchase of these houses by the occupying tenants. Severely criticising the present by-laws as to the width of streets and area of open spaces in the rear of buildings, and quoting the opinions of Mr. Blashill and Dr. Louis Parkes in support of his contention that the requirements, though well enough in the case of cottage property, were utterly inadequate to secure the minimum of light and air to block dwellings of five or six storeys, he expressed his entire assent to the rule laid down by Dr. J. F. J. Sykes at the International Congress last year that all buildings should stand below a line drawn from the sills of the ground-floor windows of the opposite houses at an angle of forty-five degrees with the ground. Approaching the most practical question, that of the rehabilitation of old and insanitary property, he divided the houses of the poor into three classes—viz, (1) Old houses and cottages built for single families, but now accommodating several, and comprising three-fourths of the dwellings of the London poor; (2) independent tenement dwellings or cottage blocks; and (3) superimposed or collective tenements or block dwellings, including lodging-houses. Unfit as most of the houses in the first class were for such occupation, he thought it was far better that they should be improved rather than demolished, and illustrated by numerous plans and elevations the methods adopted in Salford for transforming the worst back-to-back cottages into decent tenements of two floors or flats. This arrangement of two or three superimposed but mutually independent dwellings, each provided with every sanitary convenience, was socially and physically the best, and was to be seen to the greatest advantage at Noel Park, Wood Green, in the north of London. Block dwellings were themselves of three kinds—viz., those in which each tenement was self-contained; those in which the waterclosets, washhouses &c. were respectively grouped together or common; and lodging-houses having common kitchens, lavatories &c. There were about 600 block dwellings in London, some, especially those erected by trusts, excellently arranged, others presenting every imaginable defect. Block dwellings were not desirable, but under certain circumstances must be accepted as unavoidable. After a short notice of some model lodging-houses, such as Lord Rowton's and that opened by the London County Council, Mr. Worthington explained under sixteen heads the ends to be aimed at and the methods by which these ends were to be attained, for the better housing of the working classes and for obviating the evils resulting from the excessive aggregation of the population.

HUNTERIAN SOCIETY.—An ordinary meeting of this Society was held at the London Institution on April 25th, Mr. F. GORDON BROWN in the chair.—Dr. STOWERS read the notes, and exhibited sections and a coloured drawing, of a case of Melanotic Sarcoma of the Left Ear in a girl aged eleven. The growth was dark and warty in appearance, as large as a sixpence and had been growing ten months. No nævi had ever been noticed. Microscopic section showed pigmented spindle cells arranged in alveoli.—Dr. CHAPLIN read a paper entitled the Logical Consequences of the Bacillary Theory of Consumption. He gave the reasons why it was almost certain (1) that tuberculosis is due to a specific bacillus; (2) that this organism cast upon suitable soil will produce tuberculosis; (3) that every case of tuberculosis must have had its origin directly or indirectly in another case. He would compare tuberculosis to typhoid fever; both were specific infective disorders and in both the dangerous part was the discharge cast off in one case by the intestinal ulcer and in the other by the lung cavity or other tuberculous ulcer. This being so, Dr. Chaplin urged that the discharges from a tuberculous patient should be disinfected. He pointed out that the treatment of tuberculosis by antiseptic therapeutics alone, even when successful, only benefited the patient himself and did not prevent him from again acquiring tuberculosis or from transmitting the disease to others whilst in process of cure. He submitted that disinfection of the discharges was all-important and that the public vehicles near a hospital for phthisis were rendered veritable death-traps for the want of it. He advocated the plan of giving each out-patient a leaflet containing instructions for the disposal of his sputum &c. He advised the inclusion of cases of tuberculosis under the Notification Act and stated that if this were done it would

be noticed that cases again and again arose in the same house. He said it was absolutely necessary that as there were fever hospitals so there should be hospitals where cases of advanced phthisis could be isolated and cared for and prevented from exposing their fellow men to the risk of infection.—The PRESIDENT asked, if tuberculosis were so contagious, how it was that so few of the workers in chest hospitals became affected.—Dr. HERON cordially agreed with Dr. Chaplin's remarks. He wished to see the general public educated on this matter. He would like to see all chest hospitals removed to the country.—Dr. RUFFER heartily agreed with the remarks of Dr. Chaplin. He maintained that the question of contagiousness of tubercle had been definitely settled by Professor Koch and others by experiments on animals. Morgagni 200 years ago knew that tubercle was contagious and isolated his patients.—Dr. DUNDAS GRANT, Dr. GILBERT, Dr. W. HUNTER and Sir H. BEEVOR continued the discussion, and Dr. CHAPLIN replied.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—At a meeting of this Society held on May 5th Mr. F. SWINFORD EDWARDS, the President, showed: (1) A case of Inguinal Colotomy for Malignant Disease of the Rectum, for which he had operated seven years ago and which had recently returned; (2) a case of Villous Tumour of the Rectum in a woman.—The history of a case of Primary Tuberculous Cystitis in a child was read by Dr. S. BONTOR. The patient, a girl nine years of age, came of a markedly tuberculous family. She had suffered from incontinence of urine all her life, and latterly micturition took place every half-hour or so in small quantities at a time. When first seen by Dr. Bontor the urine was alkaline, almost entirely composed of pus, and free from blood. There was a history of a fit on three occasions prior to this, and the fits increased in frequency later on. The passage of a sound caused intense pain, but nothing abnormal was detected. Washing out the bladder with a solution of boracic acid and the administration of the same drug and of benzoate of ammonium by the mouth produced no improvement in the symptoms, and death from exhaustion ensued on Jan. 20th, 1893, no urine being passed during the last twenty-four hours. On post-mortem examination the bladder was found to contain about a teaspoonful of pus; its walls were thickened and the cavity was contracted. Upon the left side, about three quarters of an inch above the opening of the ureter, was an ulcer about the size of a small horsebean, with raised, undermined and ragged edges, its base being irregular and covered with pus. The ureters were dilated to the size of the little finger, and the walls were slightly thickened but not ulcerated. On laying open the kidneys, which were equally affected, the pyramids were found to be quite obliterated; the pelves and calyces were dilated, but free from ulceration; the cortex was hard and thin, and there were no collections of pus.—Dr. J. B. BALL brought forward cases of Chronic Purulent Nasal Discharge in Children. The paper dealt with fifty consecutive cases of chronic discharge of pus or crusts from one or both nostrils in subjects under fifteen years of age. Twenty-seven were cases of chronic purulent rhinitis, and of these twenty-three were affected with adenoid vegetations of the naso-pharynx, which must be considered the great predisposing cause. There were nine cases of inherited syphilis, eight of simple ozæna, four of foreign bodies and rhinoliths, and two of antrum suppuration. Dr. Ball discussed briefly the diagnosis and treatment of the different classes of cases.—Notes on a case of Albuminuria in Pregnancy were read by Dr. W. TRAVERS. In the discussion which followed, the President, Dr. Clemow, Dr. Chapman, Dr. Schacht, Mr. Bluett and Dr. Dockrell took part.

PROVINCIAL MEDICAL SOCIETIES.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—At a meeting of this Society held on May 2nd, Dr. J. H. BELL in the chair, Mr. HORROCKS read notes of a case of Cholecystotomy in a woman aged thirty-four, who for five years previously had suffered from symptoms referred to the stomach and for two and a half years from attacks of biliary colic and occasional jaundice. During three months a tumour had been noticed on the right side. Under ether cholecystotomy was performed, the gallstones being removed with difficulty. As the gall-bladder, owing to contraction and firm adhesions, could not be stitched to the abdominal wound, the omentum was used to shut off the general peritoneal cavity, a glass tube was used to drain the pouch in front of the right kidney and a rubber drain for the gall bladder; there was no fever or peritonitis, the sulphochromic sutures came away on the thirty-eighth day, and the patient was discharged about the fifty-fifth day, a sinus remaining.—Dr. KERR showed specimens from a child of seven, who died after trephining of the mastoid cells for acute symptoms arising in the course of Chronic Middle Ear Disease. The exact cause of death was not obvious; there was no intra-cranial disease, but in the right lung, which was crippled by old pleural adhesions, small recent infarctions were found, and in the vessels and tissues around these infarctions streptococci were discovered and demonstrated.—Mr. MERCER read notes of two cases of Gastric Ulcer, fatal by perforation and abscess. A maidservant aged twenty-two suffered three years previously with signs of gastric ulcer. She had sudden pain of an agonising nature referred to the right hypochondrium and became collapsed. Appendicitis was suspected, but distension about the neighbourhood of the stomach and œdema of the right side of the chest enabled a correct diagnosis to be made; she suddenly coughed up a large quantity of fæcal-smelling pus, due to the perforation of the diaphragm and lung by an abscess caused by a ruptured gastric ulcer. She died next day, fourteen hours after the onset of serious symptoms. The next patient, a woman, had suffered from Roman fever five years before and had had stomach troubles since. She was first seen a month before death, which was due to peritonitis. An abscess had formed in front and to the left of the stomach, with the interior of which it communicated by an opening as large as a shilling, the result of a perforated gastric ulcer.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.—A meeting of this Society was held on May 3rd, Dr. JOSEPH BELL, President, in the chair.—A number of pathological specimens were shown by different members, Drs. Alexis Thomson and James Ritchie showing specimens, and Mr. Caird drawings, of Affections of the Appendix Vermiformis.—Dr. AFFLECK read a paper entitled "Observations on Diseases of the Appendix Vermiformis." He referred to the vague and unsatisfactory ideas that were in vogue until quite recently as to the diseases described as typhlitis and perityphlitis and contrasted those with the present position of the subject placed upon a basis of scientific fact, showing that the great majority of cases known as typhlitis and perityphlitis were cases of disease of the vermiform appendix. Surgery had shown that such cases were suitable for surgical operation. As probably no portion of the intestinal canal was more frequently the site of acute, severe and fatal disease, it was obvious that there must be some inherent or some associated cause which rendered it a source of special danger. Some regarded it as a trap for foreign bodies, these setting up inflammation. This was undeniably an important origin of appendicitis, but it was not the only one. It was highly probable that there were other and accessory causes. He referred to its developmental place and its anatomical relations. Inflammation was four times more common in males than in females and the great majority of attacks occurred in early life; these facts were against the view that mere fæcal impaction of the cæcum played any necessary part in the production of the disease, but suggested the possibility of some favouring anatomical condition existing in early life, which lessened as age advanced. The changes in the early stages of appendicitis had been specially noted by the American surgeons, who operated early in these cases. It would seem that the appendix might simply be enlarged and inflamed, the result of a catarrh extending from the cæcum or set up by a concretion. With it there might be some peritonitis or a cellulitis in the subperitoneal cellular tissue forming the hard swelling so frequently met with. But the change in the appendix might be more serious, such as torsion, suppuration, ulceration, perforation and even gangrene. In these there was not only localised peritonitis, but frequently a collection of pus which might open externally or into a viscus or into the general peritoneal cavity. The symptoms characterising appendicitis necessarily varied in relation to the form, extent and duration of the disease. Dr. Affleck then gave notes of cases illustrating from the physician's standpoint the characters in different forms. From these cases and others he considered that the milder and more common forms did not present any serious difficulty in diagnosis. When the question of suppuration was raised in a case it was more difficult, but there were points which were helpful, although the possibility of pus being present without symptoms was admitted. In children the diagnosis between appendicitis and tuberculous peritonitis was sometimes by no means easy. As regarded treatment, the majority of cases recovered under rest,

local applications, and light diet. The difficult problems arose in cases which were taking an unfavourable course.—Dr. JOHN DUNCAN then read a paper on the Operation for Inflammation of the Appendix Vermiformis. He said that there could be no doubt that the experience of recent years had established this operation as a valuable addition to surgical resources; but there were two points on which the last word would not be spoken for many years to come—viz., the time to operate and the mode of operating. As to the first point there was the difficulty of uncertainty of diagnosis between this disease in its acute form and various other abdominal affections. The accumulation of experience was gradually gaining definition, but a certain number of cases remained in which the chief features were symptoms of obstruction accompanied or followed by peritonitis and in which signs of localisation were deficient. In most the determination to operate was arrived at through similar considerations, and usually only the mode of operating was influenced by the want of accuracy. But even when a fair assurance could be attained of the nature of the case there were serious difficulties in fixing the proper moment to interfere. Three distinct varieties were met with: the diffuse, the localised and the relapsing. In the first, with or after more or less indication of origin in the region of the cæcum, there was speedily developed a general peritonitis, which might remain adhesive and ultimately subside or might pass immediately or quickly into the purulent condition. The general principles were sufficiently plain. The moment it was ascertained that the peritonitis was purulent, laparotomy must be performed and an attempt made to relieve the patient of the origin of his danger. The mode of arriving at these points involved a consideration of the details in each case, and one was only beginning to arrive at a due recognition of the values of symptoms. In the second, the localised variety, the guide to operation was the presence of pus. Again the principle was easy, but the practice by no means so simple. It was, however, better to err by operating too soon than to run the risk of the abscess opening into a viscus or the general peritoneal cavity. In the third, or relapsing, variety no hard-and-fast rule could be laid down. In such cases the patient probably ran comparatively little risk in any individual attack; and Dr. Affleck referred to several such cases, in all of which the individual attacks had readily yielded to ordinary methods of treatment. In such cases one had to be guided largely by the circumstances of the patient as well as by the severity of the case—the ability to put in practice the life of ease which was essential to his ultimate cure. If the operation had been determined on, it was well to do it in an interval of quiet. Each variety involved considerations as to the mode of operating. He thought that in cases of the acute variety, in which the diagnosis might be uncertain, and in cases where purulent peritonitis was fairly assured, the proper course was to incise, in the first place, in the middle line. This allowed an exhaustive search to be made for the origin of the trouble and thorough cleansing and drainage if it were an appendicitis or other condition requiring a second incision it was an advantage to have a tube in two places. When the condition was due to appendicitis an endeavour must be made to remove it, and in the acute form it was easy to do so. The operation in acute cases was not always easy, for in some of them there had been an antecedent attack, resulting in adhesions, and he referred to some difficult cases of this kind, in one of which the adhesions were so great that the operation could not be continued. In the cases localised to the region of the cæcum the situation of the incision should be determined by the indications of purulent collection. No very strenuous effort should be made to reach and remove the appendix by too great energy, though the general peritoneal cavity might be opened into. Some of the abscesses in this position were not connected with the appendix, but might be the result of diseases of the cæcum or colon, and of this he mentioned some cases. Localised abscesses were usually brought to a successful issue by good drainage. In the relapsing form in some cases the operation was easy, in others no more difficult an operation could be undertaken, owing to the adhesions from previous attacks.—In the discussion which followed, Dr. Joseph Bell, Mr. Cathcart and Mr. Caird recorded their experience of the disease and the results of treatment. Dr. Leith and Professor Struthers referred to points bearing upon the anatomy of the appendix and Dr. W. Russell to points in its pathology.—Sir Joseph Lister was elected an honorary member of the Society.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—At the meeting on April 19th, Mr. CHICKEN, F.R.C.S., President, being in the chair, two living specimens were shown, after which a paper was read by Dr. RANSOM.—The PRESIDENT showed a boy aged one year and a half upon whom he had operated for the Radical Cure of Hernia. He also quoted eight cases similarly treated by him, and argued that pressure by means of a truss was an ineffectual and uncertain method of cure.—Dr. W. B. RANSOM showed a man aged twenty-one, who had Left Congenital Hemiparesis. But a fortnight before he was shown the hemiplegia became suddenly worse. Syphilis was mentioned as a possible cause of the symptoms, and this was supported by the presence of disseminated choroiditis in both eyes. Dr. Ransom also read a paper on some obscure cases of Cerebral Disease, illustrated by microscopic sections, drawings and photograph. The most various lesions were diagnosed in the different cases, and were also verified post-mortem in some of the cases. In one case the symptoms pointed to abscess of the temporo-sphenoidal lobe; after trephining and the evacuation of pus the patient recovered. Another patient was trephined for a subdural cyst and recovered, but was still subject to occasional fits. A boy aged ten, suspected of having a cerebral tumour, presented right hemiplegia; but the upper facial muscles were involved as well as the lower ones, and there were also double internal strabismus and loss of taste on the right half of the tongue. After death the pons was found much enlarged by the presence of an infiltrating glioma; the right seventh nerve was thickened and the chorda tympani showed parenchymatous degeneration.——Mr. R. C. CHICKEN presided at the meeting on May 3rd, when the following subjects came on for consideration. Dr. BELL TAYLOR showed a case of Symblepharon treated by Skin-grafting after division of the adhesions.—The PRESIDENT showed—(1) A man aged forty-seven, upon whom he had successfully performed Wolff's operation for loose interarticular fibro-cartilage of the lower jaw; (2) a man aged thirty-two, whose lingual nerve he had divided by Professor Horsley's method for the relief of inveterate neuralgia; (3) a man aged fifty-six, after neurectomy of the second division of the fifth nerve by an operation devised by himself.—Some interesting observations on the sense of taste in the last two cases were made by Dr. W. B. RANSOM.—Dr. MICHIE showed six cases, all women, whose ages varied from thirty-nine to fifty-seven, and upon whom he had successfully performed cholecystotomy. All the cases recovered easily and with complete relief from symptoms.—Dr. ELDER read a paper on Abdominal Surgery, in which he reviewed the diagnosis and treatment of chronic inflammatory disease of the appendages, ovarian tumours, suppurative peritonitis, intestinal obstruction and ectopic gestation. He insisted on the value and comparative safety of exploratory operations. The paper was discussed by the President and Drs. W. B. Ransom, Michie, Tresidder and Watson.—Dr. TRESIDDER showed for Dr. C. V. Taylor a Double Pyosalpinx, and for Mr. Thompson a Vesical Calculus removed by Dilatation of the Urethra.—Dr. CATTLE showed Diplococci from Sputum of Acute Pneumonia; also a Microscopic Section of a Piece of Tongue removed for assistance in diagnosis.

PLYMOUTH MEDICAL SOCIETY.—At a "clinical evening," held on Saturday, May 6th, in the Society's Library, Mr. W. D. STAMP (Plympton) Past President, in the chair, Mr. ROW showed—(1) a girl aged four months, with Congenital Hydrocele of the Left Submaxillary Region refilling after Tapping; it is now soft and fluctuating; (2) a dockyard fitter, aged thirty-one, with marked Aortic Regurgitation, waterhammer pulse &c. caused by rheumatism fourteen years previously; (3) a girl aged five years and nine months, who sixteen months ago was noticed to have an Abdominal Tumour on the right side, the size of an orange and twenty-four inches in circumference at the umbilical level. In December last an exploratory laparotomy proved the tumour to be very vascular and connected with the liver, and the abdomen was closed; she is now anæmic and presents an abdominal circumference of twenty-nine inches. The superficial veins are hugely distended but there is no ascites, œdema of legs, or anasarca of parietes.—Dr. FOX brought forward a boy aged thirteen years who five months ago was thought to have Left Hemichorea; seven months before coming under notice he fell on his head and was insensible for some minutes; six months later he was irritable, suffering from headache and pain in the limbs, and in another month had twitchings of the left side of the body, which in January last gave place to loss of power; the weakness of the limbs increased with impaired tactile and muscular

sense—the reflexes varied from time to time. There was no history of rheumatism or tubercle, and beyond three brothers dying in infancy from convulsions no marked neurotic history.—Dr. FOX regarded it as a case of functional hemiplegia unconnected with the fall, and proposed massage to complete the improvement now shown.—Mr. STAMP exhibited a labourer aged thirty-eight who nine months previously suffered from Fæcal Impaction, due to eating heartily of grapes (stones and skins) when recovering from an attack of traumatic perityphlitis. The right iliac region was explored by Mr. Lucy, who found the obstruction near the ileo-cæcal valve and the cæcum collapsed. The ileum was sutured to the skin edge and opened at once; the discharge of a large quantity of fæces, grape-stones and skins followed, and the man made an excellent recovery. Mr. Whipple five months ago closed the resulting fistula by Treves' operation and the man is now wearing an abdominal belt and hard at work.—Mr. SWAIN emphasised the necessity of doing as little as possible in these cases, but doing that little quickly.—In reply to Mr. THOMAS, Mr. LUCY said the part of bowel opened was a few inches from the ileo-cæcal valve, and the site of operation was chosen on account of the symptoms and signs being localised in the right iliac region.—Mr. ROW showed a calcified Sebaceous Cyst (?) from the neck of a girl aged six closely resembling a salivary calculus.—Mr. SWAIN demonstrated the Uterine Decidua from a woman thought to be the subject of left tubal pregnancy on whom he proposed shortly to operate.—Mr. ALDOUS handed round the photograph of a boy aged four and a half years showing well-developed Penis and Pubic Hair.—Mr. SWAIN showed a Calculus removed by suprapubic cystotomy from a man aged fifty-eight. The patient was enormously fat, the bladder sacculated and the stone was with great difficulty removed from a pouch behind the enlarged prostate.—Dr. A. C. RENDLE demonstrated the Larynx of a boy aged six who had suffered from birth from dyspnœa, to relieve which tracheotomy was performed recently, but the boy died. After death the glottis was found to be almost occluded by a papilloma, which reached up to the cushion of the epiglottis.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this Society was held on Thursday, April 6th, the President, Mr. SIMEON SNELL, in the chair.—Mr. CHAS. ATKIN showed a man on whom he had operated for Typical Neuralgia. As the symptoms seemed to commence in the region of the lower jaw, that bone was trephined and a portion of the inferior dental nerve excised, with relief of all the symptoms up to date, ten months after the operation. Notes of other cases were read where absolute relief had been obtained by removal of Meckel's ganglion up to date, seven months after the operation, and of excision of the supra-orbital nerve, where no symptoms had recurred for five years. The operations were trivial compared to the amount of relief obtained and therefore failure of permanent cure was no argument against operative measures.—Mr. FRANK HARRISON showed a beautiful series of lantern transparencies illustrating the macroscopic and microscopic appearances of certain groups of Dental Anomalies.—Dr. ANTHONY MCCALL read a paper on Immunity and its Bearing on Therapeutics. Believing that immunity depended on physico-chemical grounds, he advocated iron with the view of neutralising the effects of albumens and peptones; arsenic, mercury, coca and alcohol to make the protoplasm of the body more stable; and glycogen to neutralise the effects of ptomaines and other alkaloids produced in infective fever. Mr. Chas. Atkin, Dr. Porter and Dr. Burgess took part in the discussion which followed.—The annual meeting of the Sheffield Medico-Chirurgical Society was held on April 27th. Mr. Richard Farell was elected president for the ensuing year. Mr. Snell, the retiring president, was elected vice-president and treasurer, and Dr. Burgess was re-elected secretary.

THE INTERNATIONAL MEDICAL CONGRESS AT ROME.—At a meeting held in Berlin of medical men from Glasgow and the West of Scotland attending the Tenth International Congress in that city Dr. Quintin M'Lennan was appointed secretary to make arrangements in Glasgow for gentlemen desirous of going to Rome during the coming autumn. In order that such arrangements may be initiated at once and a meeting convened, members of the profession in Glasgow and the West of Scotland who think of going to Rome are invited to send in their names without delay to Dr. Quintin M'Lennan, 191, Pitt-street, Glasgow, or to Dr. J. Lindsay Steven, 34, Berkeley-terrace, Glasgow.

Reviews and Notices of Books.

A Handbook of Ophthalmic Science and Practice. By HENRY E. JULER, F.R.C.S., Ophthalmic Surgeon to St. Mary's Hospital. With Illustrations. Second Edition. London: Smith, Elder and Co. 1893. Pp. 549.

THE position of ophthalmic medicine and surgery in the curriculum of medical study and in practice may be to some extent estimated by the importance and value of the works that either are now or should be in the hands of every student and of every practitioner. Quite recently we had occasion to notice with approval the appearance of a second edition of the treatise on the Diseases of the Eye by Mr. George Berry and now we have before us the second edition of a work covering the same ground by Mr. Juler. It is satisfactory to find on comparing corresponding sections of these two works that the general principles of treatment are identical. In the treatment of different forms of conjunctivitis and of the diseases of the cornea and iris the directions given as guides to the student are very similar and the accounts of the different operations differ only in subordinate details. Mr. Juler, like Mr. Berry, seems to prefer in the operation for cataract the combination of iridectomy in the main, apparently on account of the danger of prolapse of the iris when this proceeding has not been adopted; yet a few pages further on we read that "entanglement of the iris in the angles of the wound is not uncommon when iridectomy has been performed," and as this is likely to induce serious trouble, and as it is admitted that the optical results without iridectomy are decidedly better should the operation prove successful, we see no reason why this unnecessary manœuvre should be practised.

In regard to the after-treatment of operations for extraction of cataract we notice that Mr. Juler states: "If iridectomy has been performed it is not necessary to examine the eye until the third or fourth day so long as pain and swelling of the eye are absent, since active iritis or any other serious complication would not present itself without such warning. On the other hand if iridectomy has not been performed it is absolutely necessary on the morning following the operation, inasmuch as prolapse of the iris may have occurred necessitating immediate iridectomy. If this operation be deferred, plastic iritis will almost certainly ensue, the wound will not heal properly and when healed will so clamp the iris (for it will be impossible to disentangle it at a later date) that recurrent attacks of iritis may occur and threaten sympathetic trouble." Conceding the former proposition that the eye need not be examined if iridectomy has been performed for the first three or four days, providing the bandage is comfortable, we demur to the second statement that it is absolutely necessary to examine the eye on the following morning if iridectomy has not been performed, inasmuch as prolapse of the iris may have occurred, and also to the advice to perform immediate iridectomy as a matter of necessity. The examination of the eye by an unskilful hand is a fertile cause of separation of the lips of the wound and of prolapse of the iris. If this has occurred spontaneously, it quickly betrays itself by the occurrence of pain and discomfort, and if the patient is free from these symptoms there is no more need to examine the eye than there is, on the author's showing, when an iridectomy has been performed. Moreover, it is not absolutely necessary to perform an iridectomy if some prolapse has occurred. The instillation of eserine solution, if commenced immediately, will sometimes reduce the prolapse completely and should always be tried for twenty-four hours at least before resorting to operative measures. As this work is intended for young operators, we think some observations should have been made in regard to the preparation of the patient previously to the removal of a cataract. The existence

of a cough will sometimes spoil the best operation. Most patients are placed under more favourable conditions for recovery if they have had a good purge, and there are several general conditions to which the prudent surgeon will attend before he undertakes the operation. Speaking generally, it seems to us that a little more stress might be advantageously laid upon general treatment in diseases of the eye than is made in this work. For example, Mr. Juler observes that "treatment is of little avail either in superficial or deep scleritis." We should have thought that few affections of the eye were so thoroughly under the command of the well-instructed physician, and that, although recalcitrant cases do now and then occur, yet careful dietetic, regiminal and medicinal directions usually effect a speedy cure. There is a good chapter by Mr. Frost on colour vision, and Mr. Juler has had the advantage of the assistance of Mr. John Griffith in revising the chapter on refraction and in adding to the illustrations. These are, as a rule, very clear and good, though the representations of the fundus oculi are a little violent in colour. On the whole, Mr. Juler has written a very good and reliable work which represents satisfactorily the present state of ophthalmic science and practice.

Diseases and Injuries of the Ear. By Sir WM. B DALBY F.R.C.S., M.B. Fourth Edition. London: J. and A. Churchill. 1893.

THIS work is an enlarged edition of the author's well-known lectures on Aural Surgery delivered at St. George's Hospital. The fact that a fourth edition is called for is a sufficient proof of the success and popularity of this work. The present edition is enlarged and forms a handy manual of 276 pages. The book is written in a readable style and is well printed, whilst some of the illustrations are excellent. The paintings of perforations of the membrana tympani are especially worthy of commendation. The subjects of anatomy and physiology of the ear are omitted, and so are references to many forms of treatment, and the important question of the exact relations between nasal and aural affections. The author Dalby has aimed at conciseness and the publication of that which has received the sanction of his large experience. In this he has well succeeded. All that is found in the book is sound, and will stand the test of pathological reasoning and general medical knowledge. The important question of intra-cranial surgery in relation to ear disease the author is content to leave to the general surgeon, and he aptly remarks that the subject is too important and complex to be dealt with briefly. He thinks lightly of the value of pilocarpine injections in nerve deafness and of operations on the membrana tympani in cases of chronic catarrhal deafness. We think that the description of operations on the mastoid might have been extended and exemplified and the relations of necrosis of the mastoid with diabetes, tubercle and syphilis illustrated. There is an excellent chapter on Deaf-mutism. The reader will be struck in this little book by the total absence of descriptions or recommendations of what may be termed "experimental treatment." In this consists its chief value, for it thus forms a safe and reliable guide to the practitioner and the student. Its small bulk, good style, and the sound and judicious teaching it affords will ensure this edition the popularity of its predecessors and render the book an acquisition to medical libraries.

Elementary Physiology for Students. By ALFRED T. SCHOFIELD, M.D. With Two Coloured Plates and other Illustrations. London: Cassell and Co. 1892. Pp. 372.

THIS is a manual that may be well read through by the first year's student as a preparation for one of the larger treatises. It is of course quite simple in its treatment of the subject, and the author states that he has either omitted or placed in smaller type doubtful theories. The proportion of small type is, however, so insignificant that what is thus given might have been printed in the larger type and the appearance of the book thereby improved. To a few points we take exception — as, for example, when the author states that "the theory of spontaneous generation is now everywhere proved to be false," since all that can be said is that no satisfactory evidence can be adduced to show that this theory is true, which is a very different thing; its advocates ask their antagonists to explain how life commenced on the earth. Again, the statement that the liver has five letters, five lobes, five ligaments, five fissures, five vessels, five functions and weighs fifty ounces is somewhat puerile, and one of the five functions mentioned—viz., the purifying of the peptones from all poisonous and deleterious products of digestion—might have been relegated to small type. The author, speaking of the constitution of protoplasm, states very positively that six elements, carbon, oxygen, hydrogen, nitrogen, sulphur and phosphorus, are essential to it, but Waller, one of the latest authorities, only gives carbon, oxygen, hydrogen and nitrogen, attributing no higher value to the sulphur and phosphorus than Dr. Schofield does to the other bodies which "it often contains," chlorin, fluorin, sodium, potassium, magnesium and iron. These, however, are minor points and the student may accept the account of the functions of the several organs with perfect faith.

Bloodless Amputation at the Hip-joint by a New Method. By NICHOLAS SENN, M.D., Ph.D.

THIS paper was read before a surgical society in Boston, was published in the *Chicago Clinical Review* for February, 1893, and is now republished. The method recommended is a modification of that commonly known as Esmarch's. The head of the femur is disarticulated and the desired amount of the shaft is freed from its attached muscles through an external vertical incision. The soft parts on the inner side are then pierced with a forceps introduced into the wound, and through a skin incision over the end of this forceps the middle of a length of rubber tubing is drawn and then cut in two. The ends of these rubber tubes are then brought round the anterior and the posterior masses of soft parts and securely fixed, whilst the amputation is completed below them. Dr. Senn refers very briefly to one case in which he has employed the method, but he has omitted to state whether the patient recovered.

New Invention.

DRY MASSAGE RUBBER.

AT the suggestion of a physician this instrument was designed by Mr. Crutchloe, and consists of a deeply serrated and undulating surface of indiarubber fixed to a brass plate, with a wooden handle. This can be employed either by the patient himself or by an attendant. Its use, as we have found, tends to improve the tone of the muscular system, and by stimulation of the skin and removal of the effete epidermic scales a freer transpiration results. It can be applied to any part of the surface of the body, even to the face, and when regularly used its beneficial effects are apparent in the increased elasticity of the skin as manifested by the disappearance of wrinkles in the delicate skin over the malar bones. When systematically employed, especially over the abdomen, it is of service in the treatment of corpulency and in sluggish portal circulation, helping to remove superfluous fat, and by stimulating peristaltic action of the intestinal canal is an important adjunct in the treatment of constipation. The effects of the use of this little instrument in muscular rheumatism are very marked, and its application after severe muscular strain is attended with relief of the weariness often complained of and the removal of the resulting stiffness. It is to be obtained from the inventor, Mr. Edward Crutchloe, Albert Chambers, Victoria-street, S.W.

Analytical Records
FROM
THE LANCET LABORATORY.

VIROL.

(THE LIQUOR CARNIS COMPANY, LIMITED, 55, HOLBORN VIADUCT.)

VIROL is suggested as a substitute for cod-liver oil and is described as a highly concentrated complete food consisting of the proteids of beef and eggs, the fats of beef and eggs, the marrow of beef or essence of bone, the carbohydrate—extract of malt—and the salts of beef and egg (including the lime salts of the shell) in proportions carefully adjusted to diet formulæ and in accordance with modern physiological requirements. We have no fault to find with these statements, as from our own analytical observations and experience we are led to regard virol as of peculiar value, and a complete food because rich alike in all three classes of repairing material—the nitrogenous, heat-producing, and bone-forming—derived from animal, vegetable and mineral sources. In appearance and consistence it is like honey and to the taste it resembles excellent toffee. The microscope affords evidence of the remarkable state of emulsion—it might also be said solution—in which the fat present exists. Fat globules cannot be distinguished, but on the addition of water the fat separates and forms a fluid which in appearance resembles milk. It is reasonable to conclude that fat in this condition is presented in a form eminently fitted for speedy assimilation. The presence of this fat does not interfere with the digestive action of the extract of malt, of which the preparation contains a large proportion, as starch paste was rapidly seen in our experiments to undergo liquefaction and finally conversion into the digested products, dextrin and maltose. Extended analysis gave further results as follows: Moisture, 11·71 per cent.; ash, 0·68 per cent.; fat, 19·64 per cent.; nitrogenous substances, 6·30 per cent.; carbohydrates, 61·67 per cent. It is satisfactory to add that no trace of objectionable preservatives could be found in the preparation. Excellent as are these chemical results, we confidently anticipate that they will be followed by clinical results of a not less satisfactory kind.

TABLOIDS CONTAINING (1) TAR, (2) ARSENITE OF COPPER AND (3) EFFERVESCING BELLADONNA AND CUBEB.

(BURROUGHS, WELLCOME & CO., SNOW-HILL BUILDINGS, E.C.)

The usefulness of the special form of drug known as the "tabloid" is evident from the demand which is constantly being made to add to an already well-stocked list those new and important remedies which are from time to time suggested. The steadily increasing employment of this form of drug is doubtless due not only to the accuracy of dosage and to the ease of administration which are secured, but also to the confidence which is inspired by the knowledge of the use of none but pure and reliable products in their preparation. The use of pure tar, for instance—that is, tar free from foreign and acrid principles—in bronchitis, bronchorrhœa and pulmonary affections is very desirable. In the tabloids of tar which we have recently received from the above firm tar is contained to the extent of one grain, and, according to our experiments, it is a specially refined product and well adapted, therefore, for remedial purposes. From the very nature of the active ingredient—as a matter of fact an oil—the tabloids are not found to be easily broken up in water, but when ether is substituted, in which the pure tar is wholly soluble, the tabloid rapidly disintegrates. The tar so extracted gives evidence of its purity, judging by the negative character of certain tests.

Arsenite of copper has been used with advantage in the treatment of cholera, dysentery and in typhoid fever, and for this purpose it is said that the condition essential to successful treatment is that the drug be administered at frequent intervals in very small doses. Tabloids are therefore made to contain $\frac{1}{1000}$th grain of the arsenite $CuHAsO_3$, and, notwithstanding this small quantity, we were able to identify by chemical tests both the arsenic and copper when only one tabloid was submitted to examination.

The tabloids of belladonna and cubeb are slightly effervescent in water and readily yield to the influence of the solvent. From the solution so obtained atropine was separated and identified by means of Vidali's reaction, whilst the taste of the ethereal extract was hot and pungent from the presence of the cubeb principles. These drugs, when combined, are regarded by some as valuable in the treatment of laryngitis, bronchial catarrh, and throat affections.

OIL AND WINE FROM THE DUCHY OF BRONTÈ.

(AGENCY, 3, BRABANT-COURT, PHILPOT-LANE, E.C.)

The simultaneous and successful production of oil and wine on the same estate must be evidence of the fertility and excellence of the soil. The Duchy of Brontè in Sicily where these "fruits of the earth" are grown was conferred upon Lord Nelson after the battle of the Nile by King Ferdinand IV. of Naples in 1798. Since then the estate has passed into the hands of the present duke (Viscount Bridport), who has spared no effort to produce a wine suited to the English taste. The vines grow on a rich lava soil, and the wine unmistakably, though not unpleasantly, inherits a characteristic taste which may be attributed to this fact. The two samples of wine submitted to us possess all the excellent characters of a selected Madeira. They are full and fruity to the taste and somewhat sweet, the older specimen, as might be expected, having a more mature flavour. On analysis the following results were obtained. No. 1: Absolute alcohol by weight, 15·00 per cent.; by volume, 18·48 per cent.—equal to proof spirit 32·38 per cent.; extractives, 4·24 per cent.; ash, 0·30 per cent.; fixed acid, reckoned as tartaric acid, 0·36 per cent.; volatile acid, reckoned as acetic acid, 0·15 per cent. No. 2 (old, in bottle): Absolute alcohol by weight, 14·36 per cent.; by volume, 17·70 per cent.—equal to proof spirit 31·03 per cent.; extractives, 4·02 per cent.; ash, 0·28 per cent.; fixed acid, equal to tartaric acid, 0·33 per cent.; volatile acid, equal to acetic acid, 0·12 per cent. In chemical composition, therefore, there is little difference between the one and the other specimen, although in the older wine it is interesting to note that the total acidity, which, however, is insignificant in both cases, is somewhat diminished. Both wines were ascertained to be entirely free from objectionable antiseptics, such as are occasionally used for the preservation of wines. The wines of the Duchy of Brontè are evidently sound and pure, and fitted alike for invalid and ordinary use.

The most important indications of the purity of olive oil are the density, the iodine absorption and the rise of temperature which occurs when the oil is treated with sulphuric acid. So tested the quality of the oil produced on the Duchy of Brontè estate proved to be of a distinctly superior kind. Thus the specific gravity was estimated at 0·9140, the iodine absorbed was equivalent to at most 81 per cent. and the rise of temperature when mixed with sulphuric acid not higher than 42 degrees Centigrade. Equally satisfactory were the observations made in regard to colour, appearance and smell. In the face of these results it is no exaggeration to describe this product as "purest olive oil." It is evidently prepared with care from the choicest olives.

THE LANCET.

LONDON: SATURDAY, MAY 13, 1893.

IT is now so fully recognised that our chief means of control over infectious diseases are to be found in preventive measures that every additional contribution to the better knowledge of the natural history of these diseases cannot but point the way to improvement in the means at our disposal. One of the chief objects of the sanitary organisation that is established in this and other civilised communities is to combat such diseases by the timely and well-ordered adoption of measures of isolation of the sick person and disinfection of himself and his surroundings, and thereby to establish a barrier of protection between him and the healthy. It is clear that this can only be done effectively provided that there is a knowledge of the period during which the person attacked remains a source of danger to the community—i.e., during which he is still infective. A secondary but equally important fact to determine is the duration of the period in such diseases that elapses between exposure to the source of infection and the development of declared symptoms, for there can be no doubt that measures of "quarantine" rationally employed and limited to this period of incubation are of some service in limiting the spread of infection. It is the adoption of stereotyped measures of "quarantine" and their application to diseases such as cholera, where they are of little avail, that have brought discredit upon the whole principle of isolating from the community those who have been in contact with a patient during the period of his infectivity. Unfortunately preventive medicine is unable to effect all that it aims at, not merely from lack of sufficiency of the measures it adopts, but from the insuperable difficulty there is in the recognition of mild types of fevers and in the diagnosis of the disease during the period of invasion.

The report of the Clinical Society's committee upon periods of incubation and contagiousness which has just been issued should be of great assistance to those whose duty it is to cope with epidemic disease. It is based on a careful analysis of observed facts from trustworthy and experienced reporters, which tend to give greater definiteness to our conceptions of the natural course of specific contagious fevers. The report itself requires detailed study, which will doubtless be bestowed upon it by medical practitioners and officers of health; but it may be useful to point out a few of the conclusions arrived at in each of the diseases with which it deals. The incubation periods of scarlet fever, diphtheria and influenza are all remarkable for their brevity, averaging in duration from one to four days. That there are exceptions in each case where longer periods have been noticed is not surprising. Indeed, we can only marvel at the comparatively regular evolution of some of these diseases, seeing how varied may be the circumstances under which the germ is implanted and how various in degree of potency may be the individual germ. We are compelled to use the language of the germ theory in speaking of these things, for the analogy between the mode of infection and that of the sowing of seed upon more or less fertile soil seems to arise involuntarily to the mind. It is far more difficult to explain "incubation" on a merely chemical theory of contagia than on that which regards them as vital, whilst the support accorded to the latter view by bacteriology makes it almost imperative to accept it as true of all these affections.

In other affections there is a singular approach to uniformity in the average duration of incubation—viz., from twelve to fourteen days—which obtains in measles, enteric fever, small-pox and varicella; whilst that of rubeola is between two and three weeks and that of mumps three weeks. Again we meet with variations above and below these means. Thus cases are reported where the incubation period of enteric fever has been as short as eight days or even less; others where it has been prolonged to three weeks; measles may rarely be developed seven days from exposure, or delayed to as much as eighteen days; small-pox may appear as early as nine or ten days, or not until fourteen or fifteen; varicella may be prolonged beyond a fortnight, and mumps beyond three weeks or may have an abbreviated incubation of a fortnight. These figures give some approximate idea of the time during which it may be necessary to keep apart those who have been dwelling in the same house or room as the infected person; and this leads to the other question, namely, that of the period of the disease during which it is infective. It will be found that there is, with hardly an exception, evidence to show that these diseases are infective from the very onset, although doubtless some are more contagious at this early period than others. The duration of infectivity is, however, most variable—a variability depending in the main upon the chief seat of the manifestation of the disease. Thus it is notorious that in scarlet fever, measles and small-pox the subject is capable of infecting others so long as the cutaneous lesion and its ensuing desquamation or scabbing last. Of other diseases, in enteric fever communicability is shown to exist until fourteen days from the beginning of convalescence; in diphtheria for a varying period after the attack has developed; in mumps for about fourteen days from the onset. A third question bound up with this of infectiousness is that of the media whereby the contagium may be carried and the length of time that they can retain the latter. Several remarkable instances of the prolonged persistence of the contagia in fomites are given, especially in connexion with diphtheria and scarlet fever, the inference from which is of course that measures of disinfection should be ample and thorough. In connexion with enteric fever the interesting fact is illustrated that the infectivity of contaminated milk or water may persist for two to four weeks after the source of contamination has been recognised and arrested. The report is rendered the more valuable by the details furnished by Mr. F. COLCLOUGH of his experience, in the hospital ships of the Metropolitan Asylums Board, of the effect of recent vaccination in protecting from or modifying attacks of small-pox; but we may well reserve to a future occasion a review of this evidence, which the present outbreak of the disease will doubtless materially supplement.

IN continuation of our previous remarks upon the report of the Leprosy Commission,[1] we may point out that much has naturally been made of the fact that a healthy person may

[1] See THE LANCET of April 29th, page 1024, and May 6th, 1893, page 1070.

for a period of years have marital relations with a leper and escape the disease. The judgment is in this case probably somewhat biased by the mere name of the intimate relation which exists, possibly also by the analogy with syphilis. It should, however, be considered that, as has been shown by the Commissioners, there are no leprosy bacilli to be found in the vaginal secretions, and it may be inferred that when ulceration exists (and, as the Commissioners suggest, ulceration "is a measure of the danger of contagion") the intimate relations of husband and wife are likely to become much less close than in ordinary circumstances. In fact, we should not expect that contagion would take place necessarily more frequently than it does in the case of other persons living under the same roof. Accordingly, we find in the report that of healthy persons married to lepers 4·9 per cent. acquired the disease, a proportion that was much diminished when the persons married to lepers had lived with them for a period of less than five years.

Tuberculosis and leprosy being each due to a specific bacillus, it is natural to suppose that analogies exist between the two diseases, and it is difficult not to allow these analogies to influence our judgment regarding either of them. It does not, however, necessarily follow that the knowledge which we may gain regarding one of these affections will be always rightfully applied in illustrating the other. Much as the diseases have in common, they still present the striking difference that the tubercle bacillus can not only be cultivated outside the body, but largely affects some of the domestic animals with which mankind is intimately associated. That difference alone must receive due weight if we are tempted to recommend or discourage rules, restrictive or otherwise, which the analogy of the one disease might suggest to be applicable to the other. In tuberculosis great stress is rightfully laid on hereditary family predisposition. As regards this disease a predisposition can be easily shown to exist, and it is often indicated by certain well-known physical characteristics, in that respect differing from leprosy; but notwithstanding this marked predisposition in certain families, it would be of no avail if the tubercle bacillus did not obtain access to the individual. If legislation has so far done little to protect individuals from the tubercle bacillus, it is only because sufficient time has not elapsed to allow the important scientific knowledge that has been acquired to influence public opinion; but there can be little doubt that in the future more and more care will be taken to prevent the tubercle bacilli from diseased persons affecting the healthy and to prevent the flesh and milk of tuberculous animals being consumed as food. In Dr. HERON'S work on "The Evidences of the Communicability of Consumption" it is stated, amongst other remarkable facts, on the authority of the Prussian Minister of Public Worship, that in certain nursing orders the members of which are selected in adult life and after medical examination as to physical fitness 63 per cent. of the deaths are due to tuberculosis, a percentage directly traceable to the members of the orders having been exposed to contagion. The presence of a leper in a healthy community, the Commissioners state, is a source of danger no greater than the presence of an individual suffering from tuberculosis. "Both diseases are contagious in an equal and minimal degree." The relative degree in which these diseases are contagious is a question which is extremely difficult to solve; but it is an undoubted fact that if the access of the respective bacilli were shut out from the tissues of human beings, tuberculosis amongst men and leprosy as a disease would cease to exist. Sir DYCE DUCKWORTH does not consider a leper in any community a source of greater danger than a phthisical patient. It is impossible to estimate the exact amount of danger from a phthisical patient, but it is quite certain that in the case of every such patient the source of the bacilli which are killing him has either been a previous phthisical patient or a phthisical animal. It is possible to underestimate in the case of tuberculosis the influence of predisposition; but it is equally possible to attach too much importance to it, and to underestimate the importance of the microbe which produces the disease.

The majority of the Committees, disagreeing with the Commissioners in regard to contagion, and believing that leprosy is propagated from individual to individual, have recommended the modes of segregation suggested by Dr. VANDYKE CARTER, which seem to us to be moderate and reasonable. Influential members of the Committees dissent from the report of the Special Committee on this important point and do not believe that the evidence in favour of contagion is sufficient to justify compulsory isolation. We do not think, however, that this dissentient expression of opinion will prevent measures being taken to progressively diminish the contamination of the Indian people by their lepers. Absolute segregation of every leper is impossible and unwarrantable; but the moderate measures suggested by Dr. HANSEN in Norway seem to meet the circumstances and have led to a diminution of the disease in that country. Probably the Commissioners are justified in saying that ulceration is to a great degree a measure of the danger of contagion, and it would be no unwarrantable interference with the rights of the individual to insist on all lepers with ulcerating sores being housed and attended to in such a way that the discharges from the ulcers should be constantly disinfected. The Norwegian rule should be adopted that where the patient cannot be satisfactorily treated in his own home, and in such a way as to prevent danger to those who live with him, he should be removed to an asylum where he could receive the benefits of treatment, and where he would cease to be a danger to his fellows. One of the arguments brought forward against the contagiousness of leprosy is the fact that so few asylum attendants acquire the disease. This does not prove that leprosy is not contagious, any more than the immunity of nurses in Lock hospitals shows that syphilis is not contagious; but it does show that when the leper is properly taken care of, when cleanliness is used and overcrowding prevented, the communicability of the disease is largely diminished. Sir DYCE DUCKWORTH suggests that it would be absurd to adopt stringent laws for the leper and to let the syphilitic person go free; but surely because persons are allowed to propagate freely such a disease as syphilis, which is a great evil, it does not follow that another great evil—the spread of leprosy—should not be abated to the utmost of our power. The analogy is not close. The syphilitic person is most dangerous at a time when usually it would be impossible to exercise control over him; the leper becomes dangerous at a time when his ulcers are teeming with myriads of the parasite which produces the disease.

It is not the least of the merits of this extremely interesting report that it has again raised the question regarding the contagiousness of leprosy, and the measures which should follow as a consequence, in a way that is sure to lead to more extensive examination of the important evidence which has been accumulated and systematised during the last few years. It is a great step in advance to find that Indian opinion has at last and finally accepted Dr. HANSEN'S convincing proof that leprosy is not hereditary. With the undeniable existence of "leper families," coupled with the conviction that the disease is not hereditary, the way is opened to an early acceptance even in India of the Norwegian observer's belief in contagion and in the necessity for legislation similar in general scope to that which has led to a remarkable and increasing diminution of the pest in Norway. That country affords an object-lesson in regard to the treatment of lepers and leprosy to which it is impossible that the Indian Government can long shut its eyes. It is hopeless to wait until improved hygiene and the sterility of lepers extinguish a disease which has perpetuated itself in Hindostan for more than 2000 years. With the proof that leprosy is a parasitic disease, and with the example of Norway to guide them, legislators can only have one object—to stamp out leprosy by rendering impossible the transmission of the parasite from the leper to the healthy individual.

THE liberty of the subject is one of the essential doctrines upon which the principle of an Englishman's daily life is based, and in the legislation of the country it is, rightly and properly, hemmed round by so many protective considerations that an Englishman, when he is at home, has every reason to be satisfied with his freedom from personal restrictions so long as his acts and behaviour are not those either of a criminal or of a lunatic. Any member of the community whose conduct stretches away in the one direction or the other from the rules and prescriptions of our social life, such as they are, is subjected to exceptional observation and criticism, until at length it may be that he comes to be regarded in the light of an offender, whose offence society, in self-defence, is compelled to classify and deal with on a more clear and decided footing, in consequence of the glaring evils to which it is found to give rise. Drunkenness is such an offence, and its evil effects on the race are perpetuated through the habitual drunkard from generation to generation. These facts have been forcing themselves strongly to the front in an especial manner during the past half-century. As a result of legislation following the report of Dr. DALRYMPLE'S Committee in 1872 facilities were given for dealing with habitual drunkards on a voluntary footing in retreats. Some amount of good resulted, but it has been the universal feeling that the number of existing retreats is totally insufficient to effect any real, substantial improvement in the state of things and that the disciplinary methods available for treating the inmates are not what they ought to be; and, further, that something more is needed in the nature of compulsory detention. This compulsory detention is necessary in order to make the habitual drunkard—or inebriate as he is called by way of refinement—feel that he is sought to be brought under a domination and a will to which he must be taught to subordinate his own weakened and often partially paralysed volitions, and by the aid of which he must try to rehabilitate himself with his normal power of self-denial and his normal feelings of self-respect.

The present Lord Chancellor takes a deep interest in the subject, and the late Home Secretary in May last year appointed a Departmental Committee to inquire into the treatment of inebriates. Their report, an exceedingly interesting document, was laid upon the table of the House of Commons a few days ago. We give elsewhere the complete text of the recommendations of the Committee, and it will be seen that they subdivide their subject into two branches, the first branch dealing with cases of drunkenness to which the provisions of the Inebriates Acts of 1879 and 1888 were directed, and the second branch with cases of habitual drunkards who come within the action of the criminal law and are apprehended for and charged with drunkenness, whether accompanied by violence or not. For practical purposes it was doubtless necessary to make a subdivision of this sort, for the circumstances under which habitual drunkenness reveals itself are extremely varied.

With regard to the class of cases included in the first branch of the inquiry, after recommending that the Secretary of State should be empowered to make rules and settle the form of affidavits regulating the admission of voluntary applicants, the Committee go on to advise that the establishment of retreats should be encouraged for those who cannot provide the whole of the funds necessary for their maintenance, the residue being supplied by voluntary contributions and, if thought desirable, by aid from the public rates. We are strongly of opinion that the enforcement of some amount of work (as suited to each case) and the extension to two years of the maximum period of detention are suggestions in the right direction.

The grave defect in the existing law as to drunkards is dealt with in the fourth recommendation, in which it is said that power should be given for the compulsory committal to a retreat of persons coming within the definition of a habitual drunkard as laid down in the Act of 1879. This will in some quarters be regarded as a strong and high-handed proposal, but we are convinced that unless a power of the sort is granted it will be useless to attempt seriously to cope with the evil. Such a power would have to be duly safeguarded, as the Committee suggest, by preliminary investigation and certification, by the appointment of trustees and by opportunity of appeal to a divisional court.

With regard to the second branch of their inquiry, the Committee recommend that reformatory institutions should be provided, aided by contributions from Imperial and local funds, for the reception and detention of criminal habitual drunkards who might be subjected to less vigorous discipline than in existing prisons and to the performance of such labour as might be prescribed; and they further recommend that magistrates should have power to commit to such reformatory institutions for lengthened periods, with or without previous punishment of imprisonment, habitual drunkards (*a*) who come within the action of the criminal law, (*b*) who fail to find sureties and recognisances, (*c*) who have been brought up for breach of such recognisances, (*d*) who are proved guilty of ill-treatment or neglect of their wives and families, or (*e*) who have been convicted of drunkenness three or more times within the previous twelve months.

If effect should be given by legislation to the recommendations of the Committee, habitual drunkards will come under the operation of regulations which cannot fail to prove beneficial both to the unfortunate and unhappy beings personally concerned and to the community at large. The Committee deserve all credit for having produced on practical and possible lines a group of remedial recommendations which have every appearance of being sound sensible and thorough.

Annotations.

"Ne quid nimis."

THE UNIVERSITY OF LONDON.

ON the "Presentation Day" of the University on Wednesday last Sir James Paget, in the course of a most eloquent address to the graduates and undergraduates, referred to the losses sustained by the University during the past year by the deaths of Lord Derby and Lord Sherbrooke. Lord Derby, although he had been the Chancellor of the University for only a short time, had been a member of the Senate since 1856, and Lord Sherbrooke was the first Parliamentary representative of the University. Prizes would be founded in their names and also in memory of the late Lord Granville. Neither the Vice-Chancellor nor Sir John Lubbock referred to the Gresham Commission, except that the latter hoped that they had escaped the injury which he thought would be inflicted by the creation of a new university and that the result might be to bring the University into closer and more intimate relations with the London colleges. Sir John Lubbock did not tell his hearers how this could be done without altogether changing the complexion of the existing University, and he would have seen from the proceedings in Convocation on the preceding evening that any such change would meet with great hostility from many of its members; for, on a proposal that the annual committee be requested to represent the views and guard the interests of Convocation generally in all matters connected with the Royal Commission, Mr. H. L. Hart, LL.D., moved as an addition, "and in particular to make it clear that this House will not agree to any radical or fundamental change in the present constitution of the University." Although the amendment was lost in a small house, it undoubtedly represents the views of a large number of the graduates, and this attitude must be taken into consideration when radical alterations, which must be made if a satisfactory teaching university is to be formed, are suggested by Sir John Lubbock and other members of the Senate.

THE LAW AND CELLAR BAKEHOUSES.

DR. F. J. WALDO, the medical officer of health of St. George's, Southwark, has raised a nice legal issue with regard to bakehouses. It will be remembered that he reported certain cellar bakehouses in his district which were occasionally flooded by sewage coming up through the drain-traps. In answer to a question asked in the House, Mr. H. Fowler stated that the local authorities were responsible. But which local authority, the vestry or the London County Council? Dr. Waldo submits that the local sewers are below the level of the bakehouse drains. The flooding is due to the main drainage system which was handed over by the defunct Metropolitan Board of Works to the County Council. It is because the main sewers of the London County Council fail to adequately carry off storm water that the sewage is forced up the local sewers and through private drains into cellars of houses and notably into sundry bakehouses. This is a grievance that does not affect bakehouses alone, though the public will be more generally concerned by the disgusting prospect of eating bread made with flour that has been in contact with sewage. Dr. Waldo points out that there is no law to prevent "men, women and growing children from continuing to dwell night and day in dark, unventilatable basements in this poverty-stricken, overcrowded and low-lying district, similar in every respect to the bakehouses already described, provided only the underground room be not let or occupied 'separately.'" It is this word "separately" that renders Section 96 of the Public Health (London) Act of 1891 inoperative in many cases. Again, the same Act says that bakehouses (Section 4) are to be so ventilated as to render harmless, "as far as practicable," any gases, vapours, dust &c. This, Dr. Waldo rightly maintains, is absolutely impracticable in a cellar bakehouse. There is only one certain and efficacious remedy, and that is to close such bakehouses; but Dr. Waldo does not think the law is sufficiently strong for this to be done. Certainly under the Bakehouse Act, if the local authority can satisfy a Court of Summary Jurisdiction that ventilation is needed in a bakehouse, the occupier is liable to a fine not exceeding 40*s*. The Court may order means to be adopted by the occupier and inflict further fines for non-compliance. But there are no means available for properly ventilating a cellar bakehouse. Also, if there were such means forthcoming, the occupier, who is often but a temporary tenant and a poor struggling tradesman, would not be able to afford the expense of such ventilation. It would have been more practical to make the owner responsible. Much mischief also would be prevented if we could simply read Section 26 of the Factory and Workshop Act of 1891 backwards. This section obliges every person, within a month after opening a bakehouse, to serve a written notice upon the district factory inspector acquainting him of the fact. The inspector must then inform the local sanitary authority. The proper thing would be for the baker to inform the sanitary authority directly, and this before and not after he has opened a bakehouse. The premises should be visited by the medical officer of health before any bread is made in them. Thus many evils could be nipped in the bud. Evidently the law is not yet in a satisfactory condition, and Dr. Waldo is rendering good service in calling attention to its deficiencies.

THE INTERNATIONAL MEDICAL CONGRESS.

FROM Rome, under date May 7th, our own correspondent writes: "The somewhat disquieting rumour that in view of the seriously compromised sanitary condition of Central and North-western Europe the Congress might possibly have to be postponed has gained no strength since my last communication. The 'sanitary condition' in question is of a less grave and certainly less extended character than was apprehended—indeed, it would have required nothing short of a cholera explosion equal to that of 1891 or 1884 to justify the postponement of an international meeting already so near its consummation, a meeting, moreover, at which such an array of delegates from every quarter of the globe has already made so many sacrifices to assist. The Italian Government is acting as if no idea of postponement had ever occurred to the Central Committee and, as I write, has published a decree authorising the Commendatore Costantino Verde, Auxiliary Inspector of Naval Hygiene (who has just been decorated for distinguished services as Grand Ufficiale della Corona d'Italia), to represent it at the Congress. Amongst other 'adesioni' received by the Central Committee since my last communication the most important is that of Professor R. Koch, who has signified his willingness to take a prominent part in the discussions on cholera and on the precautionary

measures suggested by the report of the Anglo-Indian Commission which stand on the agenda paper of the section of Hygiene. In Germany the formation of subcommittees goes on steadily, that for Saxony having as its president Dr. Heinrich Curschmann, Professor of Special Pathology and Therapeutics in the University of Leipsic; that for Hesse, Dr. Eigenbrodt, Professor of Laryngology at Bonn; that for Oldenburg, Dr. Pletzer of Bremen, and that for Lubeck Dr. Reinke of Hamburg. The President of the Paris School of Dentistry, Dr. G. Poinsot, announces his acceptance of the Central Committee's invitation and will be accompanied by other delegates from the same school, whose names will be given shortly. The 'Associazione Farmaceutica Italiana' and the 'Collegio Clinico-Farmaceutico di Roma' have, through their respective heads, apprised the Central Committee that the Pharmaceutical Congress fixed for Naples, September, 1893, has been postponed in order to admit of the attendance of delegates from these bodies at the International Medical Congress. From Turin I learn that at a meeting presided over by Professor Carlo Reymond and numerously attended by (amongst others) Professors Bizzozero and Foà and by Drs. Pietravalle Bergesio and Otolenghi steps were taken to secure the representation at the Congress of the pharmaceutical colleges and associations throughout Piedmont with further view to their contributing to the 'Esposizione Igienica,' one of the most useful features, particularly in the therapeutic domain, of the international *réunion*. Piedmont has been honourably distinguished in the Italian peninsula by its additions to the armamentarium of surgery, medicine and hygiene, as well as to pharmacy proper, and, with a quite intelligible zeal, is anxious to put these *en évidence* before the great gathering of the medical world. The 'Navigazione General Italiana' informs me that its fares will be reduced 30 per cent. for all members of the International Medical Congress, as a like reduction has, indeed, been its custom for Italian medical congresses of every kind; further, that, in accord with the 'Compagnia di Navigazione La Veloce' of Genoa, it has arranged for all 'congressisti' coming from Monte Video and Buenos Ayres a reduction (including meals) of 20 per cent. for the single voyage to Italy and 30 per cent. for the voyage both ways (also including meals)."

INFIRMARY NURSES.

THE members of the Workhouse Infirmary Nursing Association have memorialised the President of the Local Government Board upon several subjects connected with the nursing departments of the various institutions which come under the jurisdiction of the Board. In the forefront of their suggestions they put the demand for a more accurate definition of the position of the infirmary matron in institutions which have no separate building appropriated to the purposes of an infirmary. In these cases there is apt to be some confusion between the duties and jurisdiction of the workhouse matron and of the infirmary matron which it is manifestly desirable to minimise by all possible means. It is, however, very largely a matter of personal feeling and temperament, and probably the most carefully drawn regulations will still leave much in doubt and will need to be worked out with reciprocated goodwill on both sides where two officers are so largely concerned with the responsibilities of the same department. Another point upon which the petitioners insist with much force of reason is the importance of promoting the employment of trained nurses in the actual attendance upon the sick and, in that connexion, of employing trained nurses only in the capacity of matrons and of utilising the metropolitan infirmaries as training schools for probationers, from which a regular supply of trained nurses could be drawn. With these suggestions there will, we should hope, be every disposition on the part of the Poor-law authorities to sympathise, and the questions which will be discussed will have relation to the time and mode only of carrying the proposals into effect. With regard to provincial infirmaries and sick wards the following suggestions are made: "1. The nursing of the sick inmates by trained nurses only, the services of paupers being confined to scrubbing and cleaning. 2. The provision of proper nursing for the sick during the night. 3. The importance of placing a trained superintendent nurse in those infirmaries where three or more nurses are employed. 4. The total separation of the sick from the able-bodied by placing them in separate buildings. 5. The careful separation of the lock patients from the other patients, and provision for their effective nursing. 6. The provision of expeditious and efficient means of calling aid, either medical or administrative, in the night. 7. The adoption by the guardians of rules for the guidance of the nursing department. 8. The formulation by the Local Government Board of rules regulating the number of nurses employed per bed, based on Dr. Downes' recommendation. 9. The appointment of a few women inspectors in addition to the present inspectors, especially with a view to supervising the nursing department in infirmaries and workhouses." There is no doubt that in many places, and especially in rural districts where guardians reside often at great distances from the institutions over which they exercise administrative control, the work of supervision is often very inefficiently done, and in such cases the work of an inspector might produce good results; but, having regard to the fact that such institutions are necessarily very scattered and many of them remote, we should not be at all sanguine that the end desired could be on any large scale secured by a scheme of inspection that would be practicable; and, indeed, at every point the exigencies of Poor-law relief in rural districts are such that less is to be expected from the exercise of control from the central department than from the careful selection and education of fit persons for the discharge of the duties of administration. Where administrative skill and sound judgment count for so much as they must do in the relief of the poor in rural districts it is well to recognise frankly that they are indispensable and cannot be superseded by a system however perfect of centralised supervision and control.

A MEMORIAL TO PROFESSOR A. W. HOFMANN.

THE Fellows of the Chemical Society met on Friday, the 5th inst., at Burlington House to do honour to the memory of the late Professor Hofmann, whose regretted and somewhat early death took place just a year ago. Lord Playfair, a past President of the Society, opened the proceedings with a stirring and eloquent eulogium on the distinguished chemist's personal character and scientific attainments, and his account of Professor Hofmann's visit to England at the time when chemistry was practically ignored as an educational subject was listened to with marked attention. Lord Playfair reminded the Fellows of the founding of the College of Chemistry and the appointment of Professor Hofmann as first lecturer and teacher, and how under his direction, in spite of the meagre laboratory accommodation provided and the lack of adequate apparatus, the researches of the pupils, amongst whom were Abel, Perkin, Bloxam, Warren, De la Rue and Nicholson, were attended with the most brilliant results. As an instance of the fruits of Professor Hofmann's teaching was mentioned the discovery and preparation of the coal tar colours from benzene and anthracene—a discovery which has since led to the formation of one of the largest industries in the world, and one, be it remarked, which, amongst many others, had its birth under impoverished surroundings. Lord Playfair concluded with the hope that a new and independent school of chemistry on the lines of the great German laboratories would some day be established for carrying on experimental investigation and educational work, and that, phœnix-like,

out of the old and now historically interesting school a new one would arise. Sir Frederick Abel followed with an interesting account of the history of the first school of chemistry in London and of the work carried on there by the students. But the interest of the Fellows culminated in the story told by Dr. Perkin of his experiences as a pupil of Professor Hofmann and of the great and important discovery of the first coal-tar dye, mauveine, in 1856 by the latter. Then in rapid succession came other colours, most notable amongst which was Professor Hofmann's discovery in 1856 of aniline red or magenta. Dr. Perkin attributed his own success as an investigator largely to the excellent qualities of Professor Hofmann as a teacher and guide. A vote of thanks to the speakers, proposed by Dr. Gladstone and seconded by Dr. Russell, closed the third of a series of interesting meetings, the successful inauguration of which was in a great measure due to Dr. Armstrong, the recently elected President of the Society.

TRIONAL AS A HYPNOTIC.

WE announced some time ago the introduction of this substance as a hypnotic. It is of the same family group as tetronal and sulphonal, but contains three ethyl groups instead of four in tetronal and two in sulphonal. Dr. Krauss of Buffalo, in a recent number of the *New York Medical Journal*, describes his results with the drug as very encouraging, although he has used it in only small doses (from eight to ten grains) without repetition of the dose. The patients were all suffering from nervous diseases—such as Graves' disease, epilepsy, neurasthenia, trifacial neuralgia &c.—and in all of them, fifteen in number, except in those in whom peripheral nerve irritation was present, the results were gratifying. In the cases of the patients suffering from neuralgia the combination of trional with acetanilide was followed by sleep. A case of prurigo is the only one in which failure has to be recorded. No bad results followed the use of the drug, and the only apparent objection to its use in the United States is the fact that its producers have patented it and so made it less accessible for ordinary use.

THE ENFORCEMENT OF THE VACCINATION ACTS.

A RATEPAYER has applied for a mandamus against the guardians of Mile End Old Town requiring them to authorise their officer to institute and conduct proceedings against persons in default under the Vaccination Acts of 1867 to 1874. The applicant, who is a resident in Mile End Old Town, stated that in May, 1891, a resolution was passed by the guardians to the effect that no prosecution should be instituted against persons refusing to have children vaccinated and that such resolution was still in force; that on April 24th his solicitor wrote to the guardians on his behalf complaining of their neglect and giving notice of his intention to apply for a mandamus. No notice was taken of this letter, and the applicant had since learnt that thirty cases of small-pox had occurred in the district and he anticipated that if no order was made upon the guardians this number would increase. During 1891 little less than half the children born in the parish had remained unvaccinated and since that time the proportion of unvaccinated had been still greater. The Court, which consisted of Mr. Justice Vaughan Williams and Mr. Justice Collins, granted a rule *nisi* for a mandamus. The applicant is to be congratulated on his public-spirited action; it would be well if the ratepayers, upon whom will fall the burden of the expense of a small-pox epidemic, could be made to realise how their rates are increased by the unwillingness of boards of guardians to enforce the Acts, and if they could be induced to make efforts to prevent the election on the boards of those whose ignorance leads them to neglect to carry out Acts it is their duty to enforce. Apart from the question of expense, there must be many humane people in every district who would regard with horror the sufferings which this neglect must entail upon unvaccinated children who suffer from small-pox. This question of expense, however, is one which must eventually have weight even with those who do not appreciate the misery which small-pox inflicts upon unvaccinated persons. Hospital provision in London is now free for all persons suffering from dangerous infectious disease, but the ratepayers have a reasonable right to demand that they shall not be charged with the cost of providing for those who suffer from small-pox as the result of neglect. One of the questions the Royal Commission on Vaccination must necessarily consider is the arrangements which must be made for ensuring the enforcement of the Vaccination Acts. The authority which is best qualified to appreciate the evils of the neglect of vaccination is that upon which devolves the duty of providing hospital accommodation. In London, however, this authority is not directly representative, and the change which is obviously needed is to transfer the two duties of vaccination and hospital provision to the bodies responsible for the prevention of disease. If this be done there will be better opportunity for London ratepayers to ensure that the community shall not suffer from small-pox and there will be less need for an individual ratepayer to take upon himself the costly and unpleasant duty of instituting proceedings in a court of law.

LANDRY'S PARALYSIS.

No doubt numerous cases of varied pathological character have figured as cases of this nature, but even after making every allowance for imperfect investigation in the past, especially of the peripheral part of the nervous system, there are undoubtedly cases which correspond with the original clinical picture of Landry's paralysis, but which, to our present methods of histological examination, present no detectable change of structure. Whether a careful bacteriological examination in these cases would lead us a step further remains to be seen, but it is significant that in a case under Dr. Bristowe's care, which presented the usual picture of acute ascending paralysis, there was a history of a bite from a rabid dog, and careful investigation demonstrated the presence of the peculiar poison of rabies. In the recently issued number of the St. Bartholomew's Hospital Reports Dr. Ormerod makes a contribution to the literature of this subject in the shape of a careful clinical record, with subsequent naked-eye and microscopical examinations of the nervous system, of four cases presenting the usual symptoms of the disorder. These symptoms, briefly stated, may be said to consist of motor paralysis in the limbs of the flaccid type, with abolition of myotatic irritability but retention of electrical irritability in the muscles. The organic reflexes, as a rule, are undisturbed, and sensory affection, if present at all, is slight. The term "acute ascending" is, in the majority of cases, descriptive, although occasionally the order of invasion is from above downwards. In Dr. Ormerod's first case the symptoms began two days after prolonged exposure to cold in a swimming bath. Weakness showed itself first in the legs, gradually involving the upper parts, and death occurred eight days after the onset of the attack. In the second case no cause could be assigned for the pain in the back and the weakness of the legs with which the symptoms commenced. The patient sank into a typhoid condition and died sixteen days after the onset. In this case there was some impairment of sensation in the hands and feet, and the urine was retained or passed unconsciously in bed—both somewhat unusual symptoms in this disease. In the third case the patient was intemperate, and there was a history of a fall of twenty feet some weeks before the first symptoms developed. These consisted of aching and swelling of the legs, and, except for the occurrence of some fits of un-

certain nature before death, the progress of the case was similar to that of the others. In the fourth case there was a clear history of intemperance during a period of eighteen months previously to the attack and the symptoms began with shivering and with pain in the hands and arms three weeks before admission. In this case there was slight sensory impairment in the legs, but otherwise there was nothing unusual in the symptoms. As regards the morbid anatomy, in all four cases the investigation of the nervous system gave a negative result, except that in the second case there was a slight and probably insignificant granularity of the cerebral and spinal arachnoid, and in the last case a slight thickening of the cerebral arachnoid was observed, possibly connected with the patient's alcoholic habits. The appearances in the other organs, where they were unusual, could not be connected with the symptoms, unless the enlargement of the spleen in three of the cases can be regarded as in any way indicating an infective origin of the condition. The disease is certainly a mysterious one, and it remains to be seen whether bacteriology will be able to throw any light upon its causation. The existence of such a condition of both the central and peripheral nervous system—which, so far, at least, as our finest methods can show us at present, displays no abnormality in structure, associated as it is with the most profound disturbance of function—almost of necessity suggests that some toxic influence is at work which can stealthily deprive the cells of their activity—which can secretly strangle them, as it were, and leave no sign of the struggle. No doubt, as we have said, many cases in the past have been regarded as acute ascending paralysis which a more thorough pathological examination would have otherwise designated; but many, like those recorded by Dr. Ormerod, undoubtedly remain, offering for solution a most difficult and most interesting problem

THE DIFFUSION OF SMALL-POX.

THE small-pox epidemic is more than fully maintained. The fresh attacks during the last week have been numerous, and amongst those which are most striking are the following:—Manchester 26 attacks, Halifax 22, Birmingham 20, Bradford 17, Chadderton 13, Oldham 13, West Ham 12, Hull 9, Leicester 8, Warrington 7, Croydon 6 and Salford 6. The extent of the epidemic in Leeds is somewhat uncertain. The authorities are said to maintain a silence which is characteristic of a place where notification is avoided—hence there are rumours of an "alarming spread"; it is stated that very large numbers of cases are under isolation, and it is added that at least 25 fresh attacks occurred last week. Greenwich has also suffered somewhat heavily, 56 cases having occurred during the past month. Amongst other places whence information as to small-pox reaches us are: Accrington, Ashton-under-Lyne, Aston Manor, Barnard Castle, Barnstaple, Bristol, Burnley, Chatham, Cleckheaton, Derby, Eccles, Edmonton, Grassington near Skipton, Handsworth, Huddersfield, Jarrow, Keighley, Kingston, Lancaster, Leyton, Liverpool, Longton, Middlesbrough, Nelson, Newcastle-on-Tyne, Nottingham, Oldbury (where the disease is said to be spreading somewhat rapidly), Rawtenstall, Reading, Rotherham, Rowley Regis, Sheffield, Sittingbourne, South Shields, Stockport, Sunderland, Wakefield, Wigan, Willesden, Wolverhampton and York. Thus the infection is now widely spread, and even if the disease should not this year assume the proportions of a general epidemic, it may be that, as on former occasions, we have in prospect a maintenance of the poison during the autumn months and the chance of a still more severe epidemic next year. But, as we have said before, we have now just entered on the period when the greatest prevalence of this year may be anticipated to take place, and it is by no means certain that a somewhat rapid diffusion may not be in immediate prospect. In the metropolis the disease is also maintained, but owing to the excellent arrangements now in operation for the early and complete isolation of all cases that are heard of, the chances of escaping a large diffusion are greater than they have ever been before. On the 9th inst. the number of cases under isolation by the Metropolitan Asylums Board was 515. The increase is thus steady and continuous; and it is to be noted that the largest increase in attacks is in South London.

UNQUALIFIED MEDICAL PRACTITIONERS AND JURORS.

MR. BAXTER held an inquiry at the Poplar Town-hall with reference to the death of Florence Amelia Long of Bromley-by-Bow. She had been treated by "Dr." Tully, an unqualified person, but who was not known by the parents to be unqualified. He diagnosed the case as one of chicken-pox; but as the child became worse and he was out Mr. Dunlop was called in and found the child dying from diphtheria. There were three spots which resembled chicken-pox. Mr. Dunlop said at the inquest that he thought that if the child had been treated early for diphtheria it might have recovered. A juror thought "Dr." Tully ought to be censured. Another juror asked whether nothing could be done to prevent a man putting up as a medical practitioner when not qualified; whereupon the coroner said, "Recommendations have been made to the Medical Council, but nothing has come of the matter. ..... Really it is a case where the doctors ought to move in the matter and not we." Several of the jury thought such practices ought to be stopped, but eventually merely a formal verdict of death from diphtheria was returned. This is too common an incident. It is clear that the General Medical Council has not the power to stop such practices as those of "Dr." Tully and it is not very clear that it is its business to deal with such offenders as he. Surely it is the public who are injured, and such representatives of them as the Home Secretary or the Public Prosecutor should deal with such cases; but if they think that the General Medical Council should have such functions they should say so and promote an enlargement of its powers. Mr. Baxter and his colleagues would do a public service in urging such an extension of the powers of the Council.

HEAT-STROKE.

IN the *Boston Medical and Surgical Journal* Dr. Gannett furnishes an interesting article on the cases of heat-stroke observed in the past year at the Massachusetts General Hospital. The effects of extreme heat upon man are said to manifest themselves in two different ways, producing either heat-exhaustion or what is known as heat-stroke. In the former case the patient is pale and feeble, the skin is cold and clammy, the pulse is scarcely perceptible and the breathing is quick and shallow; whilst the temperature is normal or subnormal. In the latter, on the other hand, the symptoms are far more active. As a rule the attack is ushered in by pain or discomfort in the head, oppression of breathing, nausea and disturbance of colour sense. In the attack itself the patient is generally wholly unconscious, the skin is hot and usually dry, the pupils are contracted and the respiration is noisy—sighing, groaning or stertorous. The pulse varies, being sometimes full and regular or, perhaps, barely perceptible. Muscular spasm is not infrequent and a maculo-papular eruption may be now and then visible. Death may result immediately in the severe forms or it may be delayed and occur later from respiratory or cardiac failure. If recovery occurs it is accompanied with a fall of the temperature, relaxation of the pupils and the restoration of consciousness. There is a chance of relapse and headache not uncommonly persists. As regards causation, a disturbance of the heat-regulating mechanism—either increased production or diminished dissipation, or both—seems

to underlie the condition. Further than this it is at present impossible to go. Evidence from post-mortem examinations has proved to be of no value, so far, in deciding the question. It seems that foreigners from cool climates are most liable to be affected by this condition; but the influence of alcoholic abuse, of the copious imbibition of iced water, and of the direct rays of the sun has probably been exaggerated. The cases recorded by Dr. Gannett bear out these statements in general. One point is interesting as regards the urine. In five cases it was examined and in one of these it was found to be normal. In the other four it contained a trace of albumen, and in three of these the sediment contained hyaline and granular casts and a few blood corpuscles. The treatment should be prompt and vigorous, the patient being stripped, laid upon a table and rubbed with ice all over the body or placed in a bath at 70°. A very high temperature need not cause despair, as in one of Dr. Gannett's patients the thermometer reached its limit of 115° and in two it was 110°, and yet they recovered. It cannot be denied that our knowledge of heat-stroke and sun-stroke is still imperfect, and the value of such observations as the carefully recorded ones in this paper is scarcely to be over-estimated. They are especially important as regards their practical or therapeutical aspect.

THE ALLEGED INCREASE OF CANCER.

A PAPER on this subject by Mr. George King, F.I.A., F.F.A., and Dr. Arthur Newsholme has been communicated to the Royal Society by Dr. Bristowe. The writers studied the official cancer death-rates for the kingdom and compared these with death-rates and other data obtained from the experience of the Scottish Widows' Fund Life Assurance Society and from the official cancer returns for Frankfort-on-the-Maine. They classify their material into two groups, according as the cancer is "accessible," or easy of diagnosis, and "inaccessible," or difficult to diagnose. The general conclusions arrived at are that males and females suffer equally from cancer in those parts of the body common to man and woman, the greater prevalence of cancer amongst females being due entirely to cancer of the sexual organs; that the apparent increase of cancer is confined to cases in which the disease is difficult of diagnosis; and that the supposed increase is only apparent and due to improved diagnosis and more careful certification of the cause of death.

DISORDERS CONNECTED WITH HEMIPLEGIA.

IN a recent number of the *Philadelphia Medical News* Dr. Weir-Mitchell draws attention in an interesting paper to some conditions associated with hemiplegia in certain cases and indeed forming part of it. The first of these has to do with changes in the joint occurring after an attack of hemiplegia and affecting the limb on the paralysed side. This has been long recognised as a sequel of hemiplegia, but its causation is obscure. It is usually ascribed to a descending degenerative change involving the motor tract and the cord. If this is so the changes must be very rapid, as Dr. Weir-Mitchell has seen them occur in several cases within four days. But there is another group described in this paper, in which the changes occur in the following order: Unilateral pain and soreness, tenderness of certain joints, slight swelling and pain, also unilateral. There may be repeated attacks and they are succeeded by a cerebral lesion paralysing the side on which the pain has been present, after which the joint lesions on the paralysed side increase in severity and become chronic. With these symptoms there is no cardiac disease. In another class of cases there are long-continued or occasional muscular aching sensations on one side only, followed in a year or two by paralysis of the affected side. This is succeeded by joint changes, which become chronic. Dr. Weir-Mitchell is of opinion that unilateral rheumatism does not explain the joint changes after hemiplegia, and their occurrence within a very few days of the onset of paralysis makes it unlikely that they are due to secondary spinal changes. May they, as well as the pain, not have their origin in the cerebrum? He also describes a condition found subsequently to hemiplegia which has apparently not been observed hitherto. This is the occurrence of periosteal nodes in hemiplegic patients who are not syphilitic, and whose nodes are uninfluenced by anti-syphilitic treatment. In further considering the etiology of these and other post-hemiplegic changes, Dr. Weir-Mitchell suggests that the nutritive disturbances in the palsied limb may evolve locally products which give rise to these pseudo-rheumatic results, and that, as nerve lesions alter skin secretions, so chemical products favourable to joint changes may result from a modification of the ordinary fluids present in the muscles.

MEANS OF ISOLATION AT BIRKENHEAD.

NOTHING is easier than to start a cry of "Down with the rates," and on the basis of what practically amounts to this cry a great effort is being made to wreck the chances of the provision of an adequate hospital for infectious diseases at Birkenhead. This is the more unfortunate because the means hitherto available have been more than discreditable to such a borough, and because those who are assailing the scheme are evidently not aware of the principles that ought to be held in view if a genuine attempt is to be made in Birkenhead to lessen the amount of infectious disease. The provision of fifty-six beds is deemed excessive; and whilst this comparatively small provision is in immediate contemplation, one critic objects to the provision of an administrative block capable of dealing with 104 beds, whilst another suggests that temporary means of isolation, as by iron huts, can easily be added to the permanent accommodation. But it is precisely in view of such possible temporary extension that the large administrative block becomes necessary, for it is perfectly useless to contemplate a temporary increase of ward pavilions unless there exists in readiness means for dealing with the increased number of patients and, above all, for providing sleeping accommodation for the increased number of nurses. The opponents of the scheme had in Birkenhead, as elsewhere, no difficulty in getting a public meeting to vote that too much money was about to be spent on this public health measure; but such a vote is absolutely no proof that the sanitary committee have been wrong in their proposals to deal with this matter in a proper and satisfactory way.

TREATMENT OF TUBERCULOUS JOINT DISEASE BY IODOFORM-GLYCERINE EMULSION.

DR. BRODWITZ contributes an interesting article on this subject to the *Deutsche Zeitschrift für Chirurgie*, 1893, Band XXXV., p. 584. The strength of the glycerine emulsion of iodoform employed was 10 per cent., and it was carefully sterilised before use. Three methods of procedure were adopted. Firstly, the iodoform-glycerine emulsion was injected into the cavity of the abscess after the pus had been evacuated; secondly, according to the method introduced by Billroth, as much as possible of the contents of the abscess was removed, the sac filled with the emulsion and then closed; thirdly, the abscess was opened and the sac stuffed with sterilized gauze soaked in the emulsion, which was allowed to remain some time before sutures were inserted. The results are given in detail. The following are a few abstracts: Of 20 cases treated for cold abscesses 3 were lost sight of, 9 made a perfect recovery and in 8 fistula remained. In 25 cases of tuberculous lesions of the articular extremities of bones, some of which presented fistula and other abscesses, the treatment consisted in resection of the joint, with sub-

sequent scraping and injections of the iodoform glycerine. 1 patient died during the treatment, 4 improved and in 20 a so-called "cure" was established. Of these 20, 10 had continued to do well, in 5 there were symptoms of a return of the trouble and 4 had been lost sight of. In 18 cases of tuberculous disease of the articular extremities of bones without pus in the joints resection was adopted and the wound filled with the emulsion. Of 8 cases in which sutures were at once applied all for a time did well, but 3 relapsed. Of 10 cases in which sutures were not at once inserted all recovered and, with the exception of 1 patient who died three months afterwards, all had continued well and no further signs of disease could be detected.

THE BURGH POLICE (SCOTLAND) ACT.

THE Bill to amend the Scotch Burgh Police Act was blocked for a few days, but the block was removed in time and the committee stage and third reading have now been got through without opposition. There is, therefore, practical certainty of its finding a place on the statute-book in time to prevent the wholesale disorganisation of public health administration which would inevitably have resulted from the unamended Act passed last year. Sir George Trevelyan is to be congratulated on having done a very good piece of work with regard to sanitation in Scotland.

THE eighth annual dinner of Cornishmen in London was held on Saturday evening at the Freemasons' Tavern. The Earl of St. Germans presided, the vice-chair was taken by Mr. Theophilus Hoskin, J.P., and a gathering of over 300 included the Earl of Mount Edgcumbe, Sir W. Trevelyan, the Bishop of Bedford, Sir Andrew Scoble, Q.C., M.P., Dr. Douglas Powell, Mr. Kingdon, Dr. Curnow, Mr. Vivian, Dr. Herman, Dr. Wise, Dr. Burgess, Dr. Wallace, Dr. Silcock and Dr. Hill. The chairman amidst great enthusiasm despatched the following telegram to the Prince of Wales:—"Three hundred Cornishmen dining together in London beg leave to offer to your Royal Highness their most hearty congratulations on the engagement of the Duke of York to the Princess May and cordially wish them long life and prosperity."

AT a meeting of the council of Mason College, Birmingham, on the 3rd inst., Dr. Gilbert Barling, surgeon to the General Hospital, Birmingham, was unanimously elected Queen's Professor of Surgery to fill the vacancy occasioned by the resignation of Mr. Oliver Pemberton. During the past thirteen years Dr. Barling has been continuously occupied in teaching—at the General Hospital in clinical teaching and at Queen's College first as Demonstrator of Anatomy and subsequently as Professor of Pathology, having held the latter position for upwards of seven years. At the same meeting Dr. Robert Saundby was elected Ingleby Lecturer for the ensuing year.

A HARVEY TERCENTENARY COMMEMORATION will be celebrated at Gonville and Caius College, Cambridge, on Wednesday, June 21st. The dinner will take place in the College hall at 7 for 7.30 P.M. We understand that rooms will be provided for the non-resident guests and that breakfast will be served on the following morning from 8.30 to 10 A.M.

BETTER accounts of small-pox in Scotland during the past fortnight reach us. There are now eight cases in Leith, mostly convalescent. Last week Glasgow had sixteen cases, the smallest number for any week during the past two months. In the Vale of Leven there are no new cases.

THE Earl of Dudley will preside at the biennial festival of the National Hospital for the Paralysed and Epileptic (Albany Memorial), Queen-square, Bloomsbury, at the Hôtel Métropole on Friday, June 23rd.

THE half-yearly dinner of the Aberdeen University Club, London, will be held in the Venetian Saloon of the Holborn Restaurant on Wednesday next, May 17th, at 7.30 P.M. The annual business meeting will take place at 7 o'clock, Principal Sir William D. Geddes, LL.D., in the chair.

BACTERIOLOGY OF THE LEPROSY COMMISSION.

THE bacteriological work carried out by the Commissioners of the Indian Leprosy Fund has not materially added to our knowledge of the bacillus lepræ, which was first identified by Armaner Hanser in leprous tubercles twenty-five years ago. At the same time, the record of the work of the Commissioners is highly instructive in its negative as well as in its positive results. It had further the advantage of being done, as it were, in duplicate—Drs. Rake and Buckmaster and Surgeon-Major Thomson working in the laboratories at Almora and Simla and the late Surgeon-Major Barclay and Mr. A. A. Kanthack at Simla. Thus two concurrent and independent series of observations were being carried on under similar conditions. Harmony in their results was to be expected, but it is not the less valuable as evidence of the trustworthiness of this line of research. At the same time it did not always obtain. The confirmation given to the invariably characteristic relationship of the bacillus to leprosy gives one more proof that it is as much a concomitant of that affection as Koch's bacillus is of tuberculosis. It is singular how slight are the differences obtainable between these two micro-organisms, being not so much morphological as concerned with their relative behaviour to staining reagents. It is pointed out, however, that these micro-chemical tests are hardly absolute enough to differentiate these organisms, which can be, perhaps, more safely distinguished by the degree and manner of their aggregation within cells.

EXAMINATION OF BLOOD AND EXCRETIONS

The first-named of the two groups of investigators relates that observations were made upon certain fluids and secretions. Specimens of blood from six lepers were examined without result, even where the blood came from a leprous tubercle. Bacilli were found in the serum obtained by blistering over the tubercles, but not from blisters raised over anæsthetic patches or normal skin. The juice from leprous tubercles examined never failed to yield quantities of bacilli, except under conditions involving error in preparation or observation, or when the tubercles were old and degenerate. Similarly the discharge from tuberculated ulcers yielded them, but not that from anæsthetic ulcers. Bacilli were found in the water in which a leper had washed his tuberculated and ulcerated feet, but no colonies could be obtained in plate cultivations of this water—a result explicable in the view that the bacilli were no longer living, or else that they were "overpowered in the struggle for existence with other organisms" which abounded in the discharge. The organisms were found in specimens of saliva in cases where the tongue was ulcerated and in one of two specimens of vaginal mucus from leprous girls. As regards the excretions, the bacilli were never found in the urine, in the fæces in only 1 specimen (from a case in which they had also been detected in the saliva), and in the sputum in 4 out of 6 patients affected with leprosy of the larynx. In neither of the 2 specimens of menstrual discharge examined were the bacilli present. Contrasting these results with those of a similar investigation by Surgeon-Major Barclay and Mr. Kanthack, we find that the latter obtained positive results in only 1 out of 20 specimens of discharge from the sores of 2 "mixed lepers"; that 12 specimens of blood and lymph from a tubercle (2 cases) yielded bacilli in all cases, and that bacilli were found in 2 specimens (out of 20) of blood and lymph from healthy but anæsthetic skin from a mixed leper; no bacilli were found in 60 specimens of blood from 6 anæsthetic lepers, nor in 40 specimens of blister fluid over tubercles in 4 cases. The saliva of 3 tuberculous lepers invariably yielded the bacilli (30 specimens examined), and the nasal secretions frequently (14 positive to 6 negative results); whilst a negative result was obtained in 50 specimens of vaginal discharge from a

tuberculous leper and in 50 specimens of menstrual discharge from an anæsthetic leper.

DISTRIBUTION OF LEPROSY BACILLI OUTSIDE THE BODY.

Observations were made upon specimens of earth taken within the Almora Asylum and only 10 bacilli were found in 100 specimens, and 300 specimens of dust collected from huts inhabited by tuberculous lepers with ulcerated feet were wholly negative. Neither set of observers found bacilli in the water of tanks at Bombay, Almora and Tarn Taran frequented by the lepers for bathing. Specimens of dried fish—a staple diet at Darjeeling—and crustacea collected from varicus parts contained numerous bacteria, but no distinctive leprosy bacilli. Lastly, the possibility of the communicability of leprosy through the medium of flies was tested by the examination of the bodies of flies which had settled on ulcerated sores of lepers; but no bacilli were found within them. A similar negative result followed the examination of mosquitos by Mr. Kanthack and Surgeon-Major Thomson.

VACCINATION.

An extended series of observations was made in view of the allegation that leprosy can be transmitted by vaccination. The contents of vesicles from forty lepers in Almora who had been vaccinated were examined for bacilli, and in no case (93 specimens examined) were they found, although in one case in "vesicles raised over tuberculated ears" and in another, in "vesicles over anæsthetic patches," "suspicious-looking rods taking fuchsin" were discovered. "But even if these cases be considered as positive, and the utmost value allowed to them, they would have little or no importance on the question at issue, for no vaccinator would be likely to vaccinate a leper over a tubercle or anæsthetic patch and use the lymph obtained from such vesicles for vaccinating healthy individuals."

CULTIVATION EXPERIMENTS.

The account of the attempts at cultivation of the leprosy bacillus is preceded by a historical sketch which shows clearly the discrepant results hitherto obtained. The experiments by Dr. Rake, Dr. Buckmaster and Surgeon-Major Thomson were made with fluid from blisters over tubercles, with excised tubercles, and with the expressed juice from tubercles. As regards the first-named source, a successful culture was obtained first in bouillon and from this by inoculation in gelatine and glycerine-agar, the growth being carried on to the sixth generation. In one of the tubes in which portions of sterilised leprous tissue were placed a culture of a vacuolated bacillus was obtained much resembling that obtained from the blister fluid, whilst in another experiment a culture of bacilli occurred in two tubes of bouillon exactly resembling that of the first experiments. Particular stress is laid upon the aggregation of these bacilli in groups. A like successful culture in bouillon was made from the juice of a leprous tubercle. It is, however, pointed out that the identity of these cultivated organisms with the leprosy bacillus is not beyond question, for, although the same organism was obtained from three diverse sources, it had not the same morphological characters, although responding to the same staining reactions, as the bacillus lepræ. The pathogenic character of the cultivated bacillus has not been proved. Mr. Kanthack also made cultivation experiments (in conjunction with Surgeon-Major Barclay), but "after a careful review of all the facts, benefiting by the lucid criticism of Professors C. Fraenkel and Baumgarten," he feels "convinced that the artificially-grown bacillus was not the leprosy bacillus."

INOCULATION EXPERIMENTS.

It is needless to enter into the details given in the appendix to the report of the experiments conducted with a view to ascertain whether leprosy could be transmitted to other animals by experimental inoculation. They were all negative in their result, although conducted with every care and precaution. The general inference is that the bacillus lepræ is either a distinctly human parasite and is incapable of propagation in other animals, or that means have yet to be devised to effect its cultivation in media outside the human body and its transmission in the form of a pure culture to susceptible animals.

ADDENBROOKE'S HOSPITAL.—At a congregation held at Cambridge on the 4th inst. a grant of £50 was made towards the cost of the sanitary improvements now being carried out in the above hospital.

THE ANNUAL CONVERSAZIONE OF THE ROYAL SOCIETY.

THE annual conversazione of the Royal Society, which was held on Wednesday, the 10th inst., was well attended, the visitors including many of the distinguished members of the company present at the opening ceremony of the Imperial Institute in the morning. On the whole, the exhibits presented less that was striking than on previous occasions, and many of the experiments shown were but a repetition of certain demonstrations given last year, a description of which duly appeared in THE LANCET at the time. Thus Professor Roberts Austen again exhibited his recording pyrometer, which, by the aid of photography, records variations in the temperatures of furnaces or other sources of heat in which thermo-couples are placed. The portable hydrogen oil safety lamp, the invention of Professor Clowes, was also once more on view, although it has since undergone modification and improvement. It has been fully described in THE LANCET. Professor Smithell's beautiful experiments to demonstrate the structure of flames formed a centre of special interest. These experiments were recorded in our columns nearly a year ago. Briefly they consist in effecting the separation of a non-luminous coal-gas flame into two combustion cones by sliding a wider tube over the one on which the flame rests. By introducing a spray of a solution of copper salt it is seen that the colouration of the flame occurs only in the outer cone where copper oxide is formed. By means of Professor Smithell's apparatus the pretty flame of cyanogen may be split into two cones, the upper a blue and the lower a red flame. High frequency electric experiments were on the present occasion in the hands of Mr A. C. Swinton. He showed that the filament of an ordinary 5-candle power 100 volt lamp could be made to incandesce with the current conveyed through the human body. It has been supposed that high frequency renders harmless to the human body currents of a strength that would be dangerous and painful, if not fatal, were the frequency lower, but Mr. Swinton is inclined to think that it is not that high frequency renders harmless a given strength of current that with ordinary frequency would be harmful, but that with high frequency it is possible to obtain effects with exceedingly small currents, that with continuous and ordinary alternating currents can only be obtained by the use of much larger currents. High temperature thermometers containing as the expansive fluid an alloy of sodium and potassium formed the pretty exhibit of Messrs. E. C. C. Baly and J. C. Chorley. The range of these thermometers is from 0° C. to 620° C., the softening point of the glass used being about 650° C. The liquid alloy presents a close resemblance to mercury and exhibits a very remarkable surface tension. Amongst other exhibits may be briefly mentioned the following: Photographs of Swedish turnip plants grown under certain conditions (the experiments, it need hardly be said, were carried out by Sir J. B. Lawes, F.R.S., and Dr. J. A. Gilbert, F.R.S., affording conclusive evidence that it is quite fallacious to suppose that root crops derive a large amount of their nitrogen from atmospheric sources by means of their extended leaf surface); the scotographoscope, an apparatus designed by Mr. C. Carus Wilson for enabling lecturers to demonstrate with chalks in a darkened room; platinum thermometers and pyrometers, by Mr. H. L. Callendar, M.A.; high tension apparatus, by Sir David Salomons; the photographic spectra of some of the brighter stars, by Professor J. Norman Lockyer; specimens of butterflies illustrating protective mimicry, by Colonel Swinhoe; and sections showing the microscopic structure of certain fossil cryptogamic plants from the Coal Measures, by Professor W. C. Williamson and Dr. Scott. Demonstrations by means of the electric lantern were undertaken by Mr. E. Wethered, who showed slides illustrating the micro-organisms in limestone rocks. Lord Armstrong, exhibited some remarkable experiments displaying the nature of the electric discharge in air and water; and, lastly, Professor H. Marshall Ward showed preparations and photographs which demonstrated (1) that sunlight kills the spores of bacteria and fungi, (2) that the electric light

also kills them, (3) what rays are most effective, (4) that the action on the spores is really direct and not indirect or owing to any chemical action of the medium, (5) that the action depends on the time of exposure, (6) the intensity of the light, and (7) experiments illustrating some details affecting the results and their practical application.

THE TREATMENT OF INEBRIATES.

THE report of the Departmental Committee on Inebriates was last week laid on the table of the House of Commons. The Committee consisted of Mr. Wharton, M.P., Sir William Guyer Hunter, M.D., M.P., Mr. E. Leigh Pemberton, Assistant Under-Secretary of State for the Home Department, Mr. C. S. Murdoch and Dr. David Nicolson, Superintendent of Broadmoor Criminal Lunatic Asylum. The following are the recommendations of the Committee:—

Having reviewed and considered the evidence presented to us, we beg, with regard to Branch I. of our inquiry—viz., cases of drunkenness to which the provisions of the Inebriates Acts of 1879 and 1888 were directed—to recommend:—

1. That the Secretary of State should be empowered to make rules and settle the form of affidavits regulating the admission and readmission of voluntary applicants to retreats in addition to or in substitution for the affidavits prescribed in the Schedule to the Habitual Drunkards Act, 1879, by which further facilities would be afforded to such applicants.

2. That the establishment of retreats should be encouraged for those who cannot provide the whole of the funds necessary for their maintenance, the residue being supplied by voluntary contributions, and, if thought desirable, by aid from the public rates, and that with regard to such retreats the Secretary of State should be empowered to make regulations by which a certain amount of work suited to each particular case should be enforced.

3. That the *maximum* period for which a patient may be confined in a retreat should be extended to two years.

4. That power should be given for the compulsory committal to a retreat of persons coming within the definition of a habitual drunkard as laid down in the Act of 1879, on the application of their relations or friends or other persons interested in their welfare. Such application to be made to any judge of the High Court, county court judge, stipendiary magistrate, or justices sitting in quarter or petty session, who shall decide on the propriety of the application.

5. That the property of the person committed should be liable for his maintenance, and the order for committal should provide, when necessary, for the appointment of a trustee of the patient's estate during the period of committal with power to apply the same towards the support of his wife or family.

6. That rules regulating the length of period of detention, applications for committal, and providing for the service of notice thereof on all proper parties should be authorised to be made by the Secretary of State, with the concurrence of the Lord Chancellor, as well as such additional rules relating to the inspection of those retreats to which patients may be committed under any order to be made in manner above mentioned as may be considered necessary.

7. That rules should in like manner be made for the release in proper cases of any inmate of a retreat before the period of his detention has expired, for enforcing his detention during that period until released, for retaking him in the event of escape, and for the enforcement of more rigorous discipline in the case of refractory patients.

8. That any order made for the compulsory committal of a habitual drunkard should be subject to appeal to a Divisional Court.

With regard to Branch II. of our inquiry—viz., cases of habitual drunkards who come within the action of the criminal law and are apprehended for and charged with drunkenness, whether accompanied by violence or not—we beg to recommend:—

9. That authority, as in Section 25 of the Intoxicating Liquors (Ireland) Act, 1874 (37 and 38 Vict., c. 69) should be given to the police to apprehend without warrant persons drunk and incapable in public highways, places and buildings, and to detain such persons, when their names and residences shall be unknown to the police and cannot be ascertained, until they can be brought before a magistrate, and thereby to carry out the provisions of 35 and 36 Vict., c. 94, s. 12, the first clause of which is reported to have become largely inoperative.

10. That additional powers should be given to magistrates to bind in sureties and recognisances for a considerable period habitual drunkards coming before them.

11. That reformatory institutions should be provided, aided by contributions from Imperial and local funds towards the cost of their building and maintenance (as in the case of existing reformatories and industrial institutions for juvenile offenders), for the reception and detention of criminal habitual drunkards who might be subjected to less rigorous discipline than in existing prisons and to the performance of such labour as might be prescribed.

12. Your Committee, whilst recognising the advantage of the establishment of such reformatories in separate buildings for this class of criminals, would recommend, failing or pending the establishment of such institutions, that the existing accommodation in prisons, lunatic asylums, or poor-houses might be utilised for this purpose.

13. That magistrates should have the power to commit to such reformatory institutions for lengthened periods, with or without previous punishment of imprisonment, habitual drunkards (*a*) who come within the action of the criminal law, (*b*) who fail to find required sureties and recognisances, (*c*) who have been brought up for breach of such recognisances, (*d*) who are proved guilty of ill-treatment or neglect of their wives and families, or (*e*) who have been convicted of drunkenness three or more times within the previous twelve months.

THE ANNUAL REPORT OF THE SANITARY COMMISSIONER WITH THE GOVERNMENT OF INDIA FOR 1891.

[CONCLUDING NOTICE.]

WE have already dwelt at some length upon the prevalence of enteric fever in India and the loss of life and inefficiency which this disease entails. The subject is one of extreme importance, for in this respect alone India causes a considerable drain on the young manhood of this country. Only the other day a correspondent of one of our daily contemporaries called attention to the lamentable death-rate of subalterns in India in connexion with the increased prevalence and mortality of enteric fever at the various military cantonments and up-country stations of our great dependency. It frequently happens that a young officer leaves this country for India and a short notice in the obituary column of a newspaper and a formal official resolution of regret record his death soon afterwards from enteric fever, and the vacant place is promptly filled, for the supply of young officers is practically unlimited. The strength of European officers in 1891 in the British and Indian armies respectively was nearly the same—viz., 2568 in the former and 2586 in the native army. Forty officers of the British and 36 of the Indian army died in that year, of whom 11 of the former and 5 of the latter died from enteric fever, almost all probably young men of short service in India. The women and children of European regiments do not suffer from this fever to anything like the same extent as young soldiers. The chief causes of death amongst women were, in order, puerperal affections, cholera, enteric fever and diseases of the nervous system. The total mortality amongst them was lower in 1891 than in any year since 1885. The average strength of children in India has been decreasing of late years and the decline still continues. The sickness amongst them was reduced in 1891, but the mortality—49·27 per 1000—had increased. In an average strength of 3137 women for the year the death-rate from enteric fever was 1·91 per 1000, and formed 13·6 per cent. of the total mortality, and amongst the children only 0·68 per 1000 died of enteric fever in 1891; but it is probable that some of the deaths classified under other forms of fever may have been really attributable to enteric fever. These facts certainly appear to be opposed to the view that milk or water contamination forms the sole or chief cause of enteric fever in India. As regards the influence of season and geographical distribution of this disease it may be said, in a general way, that the heat and fever maxima coincide; that where the temperature remains much the same throughout the year cases of enteric fever are liable to occur at all seasons; and that in the plains the disease prevails most during the hot periods immediately preceding and following the rains, and later in the season at elevated hill stations than in the stations below them.

Dysentery was most prevalent in the army in the Madras Presidency, least so in the Bombay army. The mortality from dysentery was, however, highest in the Bombay and lowest in the Bengal army. From a table showing the distribution of mortality from abscess of the liver in the presidencies and geographical groups of stations in India we notice that in the army of Madras abscess of the liver caused 9·3 per cent. of the total deaths, 5·8 in the army of Bengal and 3·9 in that of Bombay. The Western Coast, Southern India, Burmah, Bengal and Orissa and the hill convalescent depôts, where men are sent to recover, show high ratios in this respect. Burmah coast and Western Coast contributed a larger share of abscess of the liver than elsewhere to the total mortality from all causes. In the Bengal army there were 54 cases and 26 deaths from abscess of the liver, out of which in 40 cases and in 21 fatal cases, the disease was associated with dysentery.

The tables showing the effects on European regiments of a tour of Indian service are well deserving of study. Of 881 men who came to India 16 years ago in the 2nd battalion, Bedfordshire Regiment, only 6 returned with the regiment. Of the 875 to be accounted for, 188 were lost to the regiment by death and invaliding, about 213 per 1000 of the original strength. The 78th field battery was 13 years in India and numbered 155 men on arrival there. The loss per 1000 from deaths was at the rate of 109·68, from invaliding 212·90, and from other causes 664·52. The 1st Suffolk regiment numbered

663 on arrival in India and 7 men embarked for England at the end of the regiment's 15 years' service in India, leaving 656 to be accounted for as follows: 70 died, 121 were invalided and 465 were lost to the service from other causes.

Turning to the native army of India we find that its health was better in 1891 than in the preceding year, though the death-rate was still high owing to the fact of there having been an increase of cholera mortality. The average strength of the native army was 128,600 and the mortality from all causes was 19·34 per 1000, as contrasted with 15·89 in the British army. The chief causes of death in the native force were cholera (2·64 per 1000, nearly the same ratio as in the British army), pneumonia, remittent fever, ague, respiratory disease other than pneumonia, injuries and dysentery. Cholera caused 17 per cent. of the total deaths and pneumonia 16 per cent. In the whole native army of India only 35 cases of enteric fever were returned, with 17 deaths, as against 18 with 9 deaths in 1890. Native troops seem to be even more liable to dysentery than European troops; this disease caused 5·6 per cent. of all the deaths of native soldiers, but only 2·8 per cent. of the deaths of European soldiers. But on comparing the statistics of the native army with those of the European, it will be found that in the year under review the death ratio of the Europeans in India from hepatic abscess was about twelve times higher than that of the natives of India. Hepatic abscess contributed 6 per cent. of all the deaths of European soldiers, but only 0·5 per cent. of the deaths of native soldiers. Has the difference in the diet and use of alcoholic beverages in the two armies anything to do with this difference? Tubercle of the lungs appears to be common in the native army, especially among the Gurkhas. Respiratory disease is, however, the chief cause of death in the native army. There is a high mortality from pneumonia in the Indus valley and in the hill stations. The mortality of native soldiers from pneumonia is more than four and a half times as great as that of European soldiers; indeed, it may be almost said to take the place of enteric fever in the latter, for whereas the relative liability in percentages to die of pneumonia is 17·6 among European troops it is 82·4 among native troops.

Touching the gaol population of India we may remark that, as always, there were no cases of cholera returned from the Andamans with an average strength of 11,576. Cholera during 1891 caused a serious increase of both admissions and mortality in the gaols of India. The increase of cholera was chiefly in Burmah Coast, Assam and Southern India. The admission rate was 5·6 and the death-rate 3·09. The percentage of deaths to cases was 54 against 51 in the previous year. The maximum prevalence of the disease was in August and there was a second rise in November. *En passant* it may be remarked that the death-rate in those attacked with cholera has been increasing for many years past in India and the same observation has been made in regard to recent epidemics in Russia. Sections 5 and 6 of the Sanitary Commissioner's report deal with the vital statistics and the history of the chief diseases of the general population of India. Cholera was prevalent throughout almost the whole of India in 1891, and the total number of deaths attributable to it amounted to 601,603, which is the highest figure recorded in any year since 1877. Compared with the previous year, every province, except Mysore, suffered more severely in 1891, and in Bengal and Assam the number of deaths has never been so great in any previous year on record. The medical history of the epidemic, and the real or alleged causes of its spread, as well as the conditions influencing its spread and development, are briefly recounted, but it cannot be said that any fresh or strong light has been thrown upon the subject. As regards the number of attendants on cholera cases amongst troops attacked with the disease, we find that in 1473 cases of cholera attended by 3063 individuals—medical officers, hospital assistants and others—56 of the latter were attacked, or at the rate of 1·83 per cent. of such attendants. The effect of moving into cholera camp was generally satisfactory, both as regards the speedy cessation of the epidemic and the general health of the troops or prisoners. The children of European regiments do not seem to suffer much from epidemic cholera. There were only 7 fatal cases during the year in a strength of nearly 6000, and it is noteworthy that this is especially the case as regards very young infants.

In the last section, under the heading of "General Remarks," the conclusions arrived at by the Special Assistant to the Sanitary Commissioner, Surgeon-Lieutenant-Colonel D. D. Cunningham, in his researches into the pathology of cholera are summarised. It is alleged that the continued study of the various forms of comma bacilli occurring in association with cholera confirms the view that there is no definite relation between the disease and the presence of a specific bacillus, presenting the characters of Koch's comma bacillus, within the intestinal canal; and that there is more and more evidence to show that the prevalence of comma bacilli in choleraic media is a consequence and not a cause of the abnormal conditions in the host. The bacteriological observations recently made in connexion with the outbreak of ptomaine-poisoning on board the ship *Crofton Hall* are cited as very striking evidence in support of this view. In addition to cholera, Surgeon-Lieutenant-Colonel Cunningham is stated to have investigated several other animal and vegetable diseases during the year, but as the details of these are to be published in the forthcoming number of the "Scientific Memoirs of the Indian Medical Service," there is no occasion to refer to them now.

THE IMPERIAL INSTITUTE.

THE IMPERIAL INSTITUTE, which was opened by the Queen on Wednesday, the 10th inst., with much pomp and ceremony, and in the presence of so many persons variously distinguished, is certain to possess many points in its construction, engineering and sanitary arrangements which cannot fail to interest many of our readers. The building is not yet completely finished, but the essential points are in a condition to admit of description.

The general character of the building is described by the architect, Mr. Collcutt, as "a free rendering of Early Italian Renaissance." It consists principally of a great central tower with gables of various forms clustered around it. The central tower is described as combining the severity of the Gothic tower with richly-decorated Italian towers. It attains a height of 280 feet.

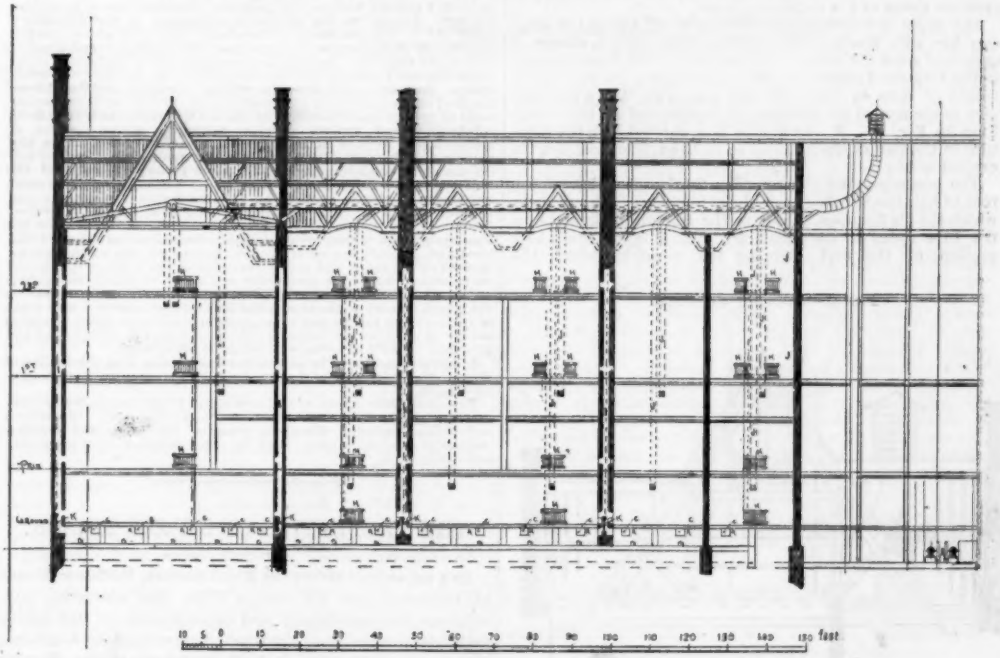
On entering the building notice is attracted by its structural beauty and solidity, the richness of the sculpture and the magnificence of the wood-work. The arcades running along the whole front from centre to wings give light to the corridors, on either side of which are arranged a series of rooms for various purposes—all "imperially" furnished. It is the appearance, however, of so much domestic comfort in the billiard, smoking and dining rooms which, in a public building of this nature, might puzzle a person visiting the Imperial Institute for the first time and without knowing its objects and purposes. Throughout the building, but particularly in what are known as the "conference rooms" of the various colonies, richness of decoration and luxuriance of furnishing are everywhere present.

Through the courtesy of the architect, Mr. Collcutt, and the kindness of Mr. S. Wallis, clerk of the works, we were able to visit the Imperial Institute and to obtain information regarding the arrangements for the lighting, heating and ventilating of this vast structure. The heating is done by means of steam generated in a large boiler, and conveyed into coils of pipe placed in ventilating chambers and situated on the basement floor at points marked B in the accompanying diagram, Fig. 1. The air enters these chambers from the outside by an aperture A and is there heated by means of the steam in the coils of pipe and moistened by water-spray atomisers. From these chambers the heated air is conducted by air-shafts in which coils have been placed into the various rooms through gratings placed on the floor or in the walls. Steam radiators are likewise fixed in all the corridors and it is noteworthy in connexion with this to observe that whenever it is possible the radiators are so placed as to warm the air as it enters the corridors or the galleries of the building. These radiators are marked H in the diagram.

The lighting of the building is everywhere well provided for. Windows of various kinds are to be found throughout the building capable of being easily opened. The building is lighted throughout by the electric light. This is provided by three machines capable of supplying a current of 110 volts and furnishing 1150 lights of 16 candle-power.

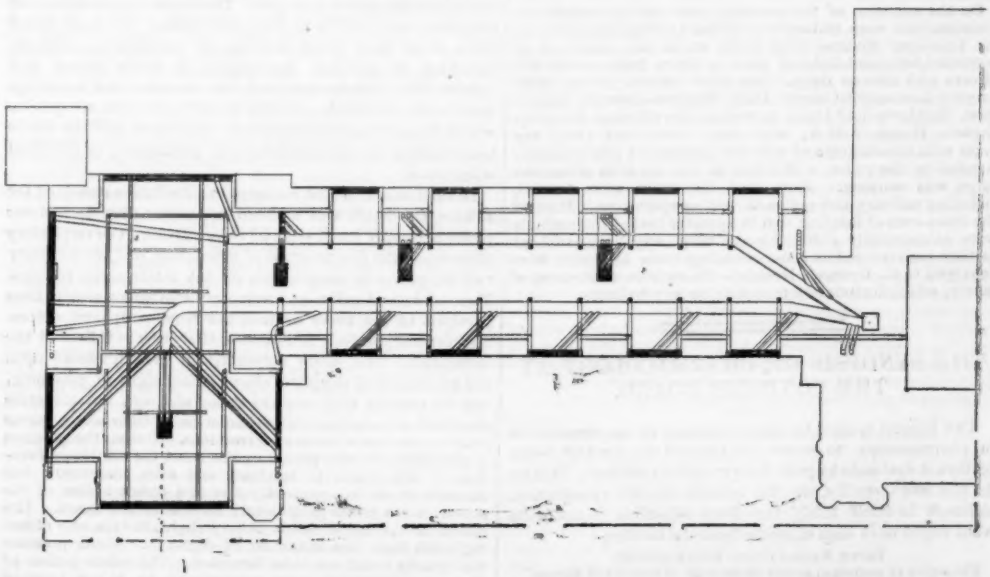
Arrangements in case of fire are also very complete. Throughout the building there are seventy or eighty hydrants. These are connected with water-tanks which are situated in the

FIG. 1.—SECTIONAL DIAGRAM OF WARMING AND VENTILATING ARRANGEMENTS.



A, Fresh air inlets to heating chambers. B, Heating chambers. C, Water spray atomisers. H, Steam radiators or coils in corridors I, Heated air shafts. J, Vitiated air shafts. K, Coils in heated air shafts.

FIG. 2.—ROOF PLAN.

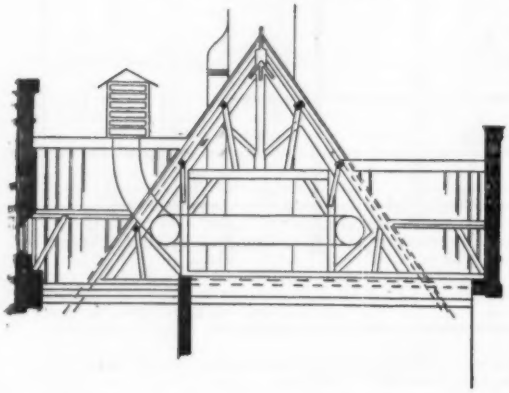


towers. One water-tank in the great tower is capable of holding more than eighty tons of water. The other towers have tanks which hold thirty tons. In addition to this stored water the hydrants are connected with the high-pressure mains of the water companies.

The mode of ventilating a building which consists of long corridors with single rooms opening from each is always a matter of some difficulty. The plan which has been adopted in the Imperial Institute consists in removing the foul air by means of flues in the walls and conveying it to a common pipe in the roof of the building, as represented by the dotted lines in Fig. 1. A steam pipe is connected with the large tube in the roof of the building so as to provide a continuous current of air.

The accompanying diagram (Fig. 2) gives the plan of the roof of half the building, and shows very clearly the mode in which the air flues are joined to the common tube and how the tube opens to the outer air. Fig. 3 is a section of a portion of the roof showing the mode in which the

FIG. 3.—SECTION OF ROOF.



tube terminates outside. There are, of course, a number of points of interest in connexion with so excellent a building as this which it is impossible to do justice to on the present occasion.

On the occasion of the opening ceremony the ambulance arrangements were undertaken by the London companies of the Volunteer Medical Staff Corps under the command of Surgeon-Lieutenant-Colonel Norton, there being about 150 officers and men on duty. The other officers present were Surgeon-Lieutenant-Colonel Platt, Surgeon-Captains Squire, Raw, Matthews and Dodd, as well as the adjutant Surgeon-Captain Hayes, A.M.S., who were distributed along the route with attachments of men and material at points recommended by the police authorities, in concert with whom the corps was working. More than 350 cases were treated, including military and police as well as spectators. Most of the cases were of fainting, and the greater part of the patients were subsequently able to make their way home without further assistance, but some requiring more attention were conveyed to St. George's Hospital. There were a few cases of injury, which fortunately proved to be only trifling.

THE SYNOPSIS OF PHARMACOLOGY AT THE CONJOINT BOARD.

THE interest excited by the new scheme for an examination in pharmacology, to which we referred in our last issue, renders it desirable to print the synopsis *in extenso*. This we do the more readily, as the scheme for the examination, although in itself fairly free from objection, is not quite what might have been expected from the heading.

THIRD EXAMINATION—PHARMACOLOGY.

The action of medicinal agents on the body in health and disease.

The range of the examination will extend to the following medicinal agents:—The application of heat and cold by both dry and moist methods; bleeding, leeching and cupping; counter-irritation; the pharmacopœial drugs and preparations defined in the Schedule of Pharmacy.

The scope of the examination, as regards the above agents, will be held to include any of the following actions:—Caustic action; the production of eschars, blisters, and pustules; the formation of protective coatings. Actions on the peristaltic movements of the alimentary canal and on the secretions of the glands connected with it; on the processes of digestion; on the appetite. The production and arrest of nausea and vomiting. Actions on the composition of the blood; on its corpuscles and leucocytes; on cell-movements; on nutrition and metabolism. Actions on the muscular walls of the heart and its intrinsic ganglia; on its accelerator and inhibitory apparatus; on the muscular coats of arteries and arterioles; on the blood-pressure and blood-flow; rubefacient and irritant action; astringent action; arrest of hæmorrhage. Actions on the processes of inflammation, acute and chronic. Actions on absorption; on the absorption of serous and inflammatory effusions. Actions on the secretory apparatus of the kidneys and the composition of the urine. Actions on the cutaneous and mammary glands. Actions on the movements of respiration and the secretions of the respiratory tract. Actions on the higher cerebral functions; the production and prevention of sleep. Actions on the sensory functions of the nervous system; the production of anæsthesia, local and general; the relief of pain; actions on the special senses. Actions on the reflex and motor functions of the nervous system and on muscular tissue; the production and arrest of spasm, convulsions and cough. Actions on the intrinsic muscles of the eye. Actions on the gravid uterus; on the catamenial flow. Actions on the temperature of the body; on pyrexia and hyper-pyrexia. Actions on specific *materies morbi*; on microbes and ferments; on the processes of putrefaction and infection. Antidotal action with regard to other drugs.

It will also include: The channels of absorption and elimination of drugs. The principles of dosage—Idiosyncrasy, accumulation, toleration, habit.

The usual toxic effects of: Phosphorus. Drugs containing arsenic, mercury and lead. Iodides, bromides, and salicylates. Chloroform and chloral hydrate. Morphine, atropine, strychnine and quinine. Acetanilide and phenazone. Digitalis, ergot, camphor, oil of turpentine and cantharides.

THE PROPERTIES OF ARROW POISON.

IN a paper read before the Royal Society, Professor Fraser of Edinburgh and Dr. Joseph Tillie give interesting particulars—pharmacological and physiological—of the active principle obtained from the wood of a species of Acokanthera. The agent in question is that contained in the Wayika arrow poison. The active principle obtained by the process adopted occurs in the form of colourless, thin, needle-shaped crystals, which usually group themselves in tufts and rosettes. When crystallised from water the plates are quadrangular. It has a probable formula of $C_{30}H_{52}O_{14}$. The arrow poison itself was found to have only one-fourth the lethal power of the crystalline active principle. The physiological action of the poison was studied on frogs and rabbits. In large lethal doses there were noted slowing of respiration, fibrillary twitching of muscles, impairment of motor power and coördination, enfeeblement and loss of reflex and voluntary movement, and death, with the ventricles in extreme systole, whilst the auricles were distended with blood and the whole heart rapidly became irresponsive to mechanical or electrical stimulation.

In small doses, whilst response to stimulation remained for a time, the heart was arrested in extreme diastole. Motor power is usually much reduced before death. The respiratory phenomena are due to arrest of circulation, and the fibrillary twitchings to a primary action on the motor nerve endings. The abolition of reflex and voluntary movement results from paralysis of the nerve centres, not from peripheral action. This central paralysis is almost entirely due to failure of the circulation. The motor nerves retain their influence upon the muscles until the latter show distinct signs of poisoning, but the muscles still react to strong although not moderate electrical stimulation after stimulation of their motor nerves is no longer able to excite contractions. During the progress of the effects of the poison on the heart the inhibitory function of the vagus is retained, and even increased; but diastolic arrest is apparently due to a direct action of the poison on the motor ganglia and muscle of the heart. The action on the bloodvessels is very slight, in this way differing much from the influence of digitalin. Blood pressure was usually found not to be increased. The whole action of the agent reveals its great resemblance to, if not identity with, strophanthin.

SCOTCH MEDICAL OFFICERS OF HEALTH AND PRIVATE PRACTICE.

A DEPUTATION representing the Parliamentary Bills Committee of the British Medical Association waited upon Sir George Trevelyan, Secretary for Scotland, at Dover House, on Thursday afternoon with reference to the position of county medical officers of health in Scotland.

Sir GEORGE TREVELYAN, having heard the arguments advanced by various members of the deputation, in reply admitted that they had put forward a very strong case in favour of the medical officer of the county not taking private practice where such an arrangement was possible. Their case did not, however, cover the whole ground. The clause of the Local Government Act said that the council of every county should appoint and pay a medical officer or medical officers and a sanitary inspector or sanitary inspectors who should not hold any other appointment or engage in private practice or employment without the express written consent of the council. Since then in the Local Taxation (Customs and Excise) Act a sum of £15,000 was allotted as a contribution to the cost of medical officers and sanitary inspectors, to be given in such manner and according to such scale and regulations as might be prescribed by the Secretary for Scotland. As far as the scale was concerned this money was allotted in proportion to the salaries paid, and as regarded the regulations one of them was that no medical officer of a county should take private practice. Now it became at once quite obvious that though this had the appearance of a very strong and exclusive regulation it was liable to a good many exceptions. There were no less than four counties in Scotland where exception had been allowed by the Board of Supervision—namely, Orkney and Shetland, Bute and Arran, Kinross, and Ross-shire. The last-mentioned was one of the largest counties in Scotland, and he could not see any reason for making an exception in the case of Ross-shire which was not made in the case of Inverness-shire or Argyllshire. Three counties stood out—Berwickshire, Haddingtonshire and Forfarshire. With regard to political motives he might say that the instance which weighed with him was that of Forfarshire, and, so far from the pressure being political in the ordinary sense of the word, it was Lord Camperdown, a thorough man of business, a very effective administrator and a political opponent, who put the case before him. Lord Camperdown explained to him the system they had adopted in Forfarshire. That system was very thorough. There was a sanitary inspector and a lay sanitary inspector, with an assistant in each of the four districts. These men were very efficient. The council thoroughly understood the manner in which they worked. Whether this was the best system or not, it was at any rate a living system, which was believed in by those who worked it. In this he was borne out by a letter he received in the morning from a medical gentleman of very considerable repute who was thoroughly conversant with health business. What he said was, "Allow different plans to be tried of doing sanitary work all over Scotland; time will effectually prove which, if there is to be one uniform plan, is the best." Plainly, different ways were needed in different localities, for already several exceptions had been made by the Secretary for Scotland under the advice of the Board of Supervision. He maintained that those exceptions ought in the first instance to be recommended by the bodies most closely conversant with the circumstances of the case—that is, by the county councils themselves. His view was that the county council should settle how they should attain the end of proper sanitation and that the business of the Board of Supervision was to see that that end was attained. The fact of a medical officer taking private practice he did not think they had authority from Parliament to see to; but it was the business of the Board of Supervision to see that the sanitary state of the county did not suffer. If the work was properly done in Forfarshire under this system, then he thought that Parliament intended that Forfarshire should have a grant; but if in Forfarshire or other counties—either a county in which the medical officer took private practice or where he did not take it—the work was not properly done, he concluded that Parliament intended that the Secretary for Scotland should there interfere and say that no share of the grant should be given. He had written to the Board of Supervision on the subject. He had expressed the view that in the best interests of sanitary administration county medical officers should, as a rule, not engage in private practice, but in certain cases it had been necessary to make exceptions, and primarily it must be for each county council to decide what was best for its own county. In this letter he expressed approval of the proposal of the Board, as a matter of recommendation, to impress this view upon county councils, whilst informing them that the fact of a medical officer engaging in private practice would no longer necessarily debar him from sharing the Government contribution. Further, he said that should complaints ever be made against a medical officer that his engaging in private practice prevented his sufficient attendance to his public duties he considered it would be the duty of the Board of Supervision to make inquiry into the truth of the allegation, and, should it prove to be correct, he would not hesitate from withholding the grant. He intended in a very short while to urge the Board of Supervision to send out a circular founded upon this letter, but going a little beyond it and stating that the medical grant would depend upon the sanitary arrangements of the county, that the fact of the medical officer being allowed to take private practice would induce a greater amount of vigilance on the part of the Board of Supervision in seeing that no harmful results followed from it, and that the Board of Supervision would consider itself bound in duty not only to withhold the grant in cases where the sanitary arrangements were defective, but to take all the powers which were placed in its hands by Parliament for the purpose of effecting proper arrangements.

The deputation thanked Sir George Trevelyan and withdrew.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On Scarlet Fever and Diphtheria in the Hendon Rural District, by Dr. BRUCE LOW.—Dr. Low commences his report with a general sanitary description of the district, from which we gather that, though some considerable measures of improvement have been effected, yet much more detailed vigilance is needed. Thus, where Colne Valley water is actually available wells liable to pollution are resorted to. Scarlet fever and diphtheria have been unduly prevalent this being notably so as regards diphtheria, and instances are given as to the association of the latter disease with defective sanitary circumstances. In 1892 there were 121 cases of scarlet fever with 4 deaths, and 46 cases of diphtheria with 8 deaths; but, as is so commonly the case, the total amount of diphtheria was obscured by reason of the use of terms which at first sight imply that the disease was croup rather than the specific disease which should be styled diphtheria. The details of some incidents in the prevalence of these two diseases have been worked out with much care and labour and then come a series of recommendations as to future action. Thus, the provision of some means of isolation for infectious diseases is urged; the prohibition of resort to impure water-supplies is referred to; an adequate system for the removal and disposal of house refuse is advocated; slaughter-houses, dairies &c., are shown to need to be placed under proper supervision and inspection; and the keeping of animals, notoriously pigs, except under proper regulations and by-laws, is condemned. This rural district contains a number of places which have become practically suburbs of the metropolis, and it is to be hoped that they will be subjected to a really efficient sanitary supervision and administration such as their present circumstances and increasing importance demand.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Small pox and Vaccination in Leicester.—Dr. Priestley's valuable report upon 146 cases of small-pox, which have occurred recently in Leicester, should have some effect upon the attitude of the more intelligent amongst the working classes of the borough, towards vaccination. Unfortunately, even figures such as those set forth in the report avail but little against the bias which exists in the minds of the people of Leicester against the wise and beneficent provisions of the Legislature. It can only be hoped that the example of "the

numbers of the better and more educated classes who have resorted lately (under panic) to both vaccination and re-vaccination," coupled with the personal experience which many have now had of the disease, will do something towards divorcing the poorer classes from those leaders whose advice produces such disastrous consequences. In classifying his cases into "vaccinated" and "unvaccinated," Dr. Priestley has trusted to the presence or absence of scars, as revealed by ocular examination, as the only reliable basis upon which to work. Considering the very imperfect manner in which vaccination is sometimes practised in districts where the feeling against it runs high, and the by no means uncommon devices of the mothers removing the fresh lymph from their children's arms, reliance upon historical evidence diminishes considerably in value. Of the 146 cases of small-pox which are under consideration, 89 were adults, and 57 children—i.e., under fifteen years of age. Of the 89 adults, 82 were vaccinated and 7 unvaccinated, and from these figures Dr. Priestley draws the conclusion that Leicester, as regards its adult population, is a fairly well vaccinated town, from the point of view of primary vaccination. Of the 82 vaccinated cases, 64, or 78·04 per cent., are recorded as having proved abortive, and the following analysis shows the marked influence which vaccination had upon the intensity of these attacks :—

Cases.		Per cent.
50	very mild	= 60·9
26	mild	= 31·7
6	severe	= 7·4
82		100

Of the total 82 one died, thus giving a mortality of 1·2 per cent. The behaviour of the 7 unvaccinated adult cases was, however, very different. Of these, 3 were very severe, 4 severe, and 1 died—i.e., the mortality was 14·2 per cent. Coming now to the 57 children who were attacked, we read that no less than 50 were unvaccinated, and of these, 8, or 16 per cent., paid the penalty of death. Analysing these cases further, Dr. Priestley found :—

Cases.		Per cent.
22	severe	= 44
22	very severe	= 44
5	mild	= 10
1	very mild	= 2
50		100

All the 7 vaccinated children who contracted the disease had very mild attacks, and in 5 of them the disease aborted. Seven revaccinated persons are stated to have had abortive attacks, the manifestations being limited to some half-dozen spots in each case. There seems in these cases to have been some difference of opinion as to the real nature of the disease. The statistics as regards the behaviour of the disease amongst the staff of the fever hospital, are well worth quoting. Of a total 28, 22 were protected either by a previous attack of small-pox or by revaccination ; of the remaining 6, all of whom refused the proffered vaccination, 4 contracted small-pox and 1 died. Surely these figures are sufficiently eloquent. During the period covered by the report, no less than 968 persons were nominally quarantined, but apparently the proper quarantine provision became soon exhausted, for we read that, the numbers having proved too great to be quarantined at the hospital, "it was arranged to quarantine and watch some of those, who had come directly or indirectly into contact with small-pox cases, at their own homes." It appears that only 208 were provided for at the hospital, the remainder (760) being watched in their homes, in common lodging-houses, the workhouse, the infirmary &c. Unfortunately Dr. Priestley was unable to ascertain the age distribution, and the conditions as regards vaccination, of all those exposed to small-pox, and it is therefore difficult to draw any trustworthy conclusions from the figures given. Out of the total number quarantined 44, or 4·5 per cent., developed small-pox. Although the details as regards vaccination are not forthcoming, Dr. Priestley states in general terms that out of the 760 persons quarantined elsewhere than at the hospital, the majority had been vaccinated and a very large proportion revaccinated, the inference presumably being that, had this not been the case, many more would have been attacked, and that this outbreak in Leicester has by no means fallen upon virgin soil. Up to the time of issuing this report, 10 deaths from small-pox had taken place in Leicester. Of these 1 was imperfectly vaccinated and 9 were unvaccinated. This, however, is not all ; 146 cases have occurred, and of these, we may fairly conclude, a considerable number of patients are permanently disfigured, more especially when we learn that, of the 146 cases 43 were confluent, in character. What the results would have been, had a large number of those attacked not been partially protected by primary vaccination, it is possible to judge from the mortality and severity of attack amongst the unvaccinated cases, and it is clear that, the longer Leicester persists in guiding its people wrongly, the greater will be the havoc wrought by each succeeding visitation of the disease. The cost to which Leicester has already been put in its endeavour to stay the spread of the disease, may be to some extent gathered from the statement contained in the report, that for the four months ended Feb. 28th, 1893, no less than £1648 4*s.* 5*d.* had been expended in quarantining 510 persons and treating 98 patients ; and some idea of the magnitude of the operations involved may be learned from the following quotation, that "in addition to treating the 146 cases in hospital 968 persons have been quarantined and watched, together with 146 absentee children, making a total of 1114 persons who have been visited daily for a period of fourteen to sixteen days." Dr. Priestley remarks that "a simple arithmetical calculation will give us the cost of, say, 1000 quarantines and 500 patients, a by no means large epidemic," and he adds that "these calculations would make one inclined to say that a system so excessively expensive is practically prohibitive if carried out on any large scale." We would venture to add that with vaccination and revaccination at our disposal the expenditure is quite unjustifiable.

Southampton Urban and Port Sanitary Districts.—It is somewhat astonishing to learn from Mr. Harris's annual report that the borough of Southampton is still without proper isolation accommodation. It appears that, at the present time, an attempt is made to isolate cases in a house situated in the main thoroughfare and possessing, as far as can be seen, all the disadvantages of a fever hospital with but few, if any, of its advantages. The report contains a graphic description of the surroundings of this hospital, but a quotation that "it may be stated to be placed in the immediate proximity of an insanitary area" will probably convey a sufficient idea of the state of affairs. In this building several cases of small-pox which were introduced into Southampton by the ss. *Tamar* were "isolated," and one of the results appears to have been that "six cases were unmistakably traced to infection from the situation of the West Quay Hospital." Mr. Harris details in his report the requirements of a new isolation hospital, and we sincerely hope he may be able to persuade the authority to carry into effect the very complete scheme he proposes. In connexion with the subject of small-pox and vaccination Mr. Harris adds another instance of a well-vaccinated staff attending upon small-pox patients with absolute immunity from the disease. We note that in Southampton, as in other towns, it is impossible to carry out the provisions of the Factory and Workshops Act, 1891, with the staff at present at the disposal of the authority. Some idea of the importance of the work in connexion with the port sanitary district may be learned from the fact that during the year, 8384 vessels entered the port, and that they carried 56,647 sailors. It is satisfactory to learn that "every vessel arriving alongside the quay or wharves, has been inspected with as little delay as possible." Mr. Harris is strongly in favour of powers of detention being given as regards vessels having on board cases of small-pox, in order that medical inspection may be carried out and the proper course taken to dispose of the cases.

Cheltenham Urban Sanitary District.—A new apparatus for the disinfection of infected articles by superheated steam has just been erected in this district, and two vehicles, one for infected and the other for disinfected goods, have been procured. It may be worth noticing, in connexion with the question of expense as regards disinfecting apparatus, that in the case of Cheltenham, arrangements have been made by which the local boards of Charlton Kings, and Leckhampton, and the Cheltenham rural sanitary authority may procure the use of the apparatus, vehicles and attendants. The charge made to the authorities is 10*s.* if the articles to be disinfected are within three miles of the disinfector, and 15*s.* if beyond that distance. A public abattoir has also been recently erected in the borough and by-laws are now before the Local Government Board. We are glad to see that Dr. Garrett is opposed to enforcing any payment for patients isolated in the infectious diseases hospitals, and he rightly remarks

that the mere mention of payment would, in many cases, act as a strong deterrent to entering the hospital. Although, on the whole, Cheltenham seems to be well supplied with water, there appears to be need of a good supply in some of the poorer districts, where at present there are only shallow wells. Dr. Garrett remarks, with regard to these wells, that "an actual analysis of the water they contain should hardly be necessary in order to prove the fact of their liability to constant pollution." We quite agree with this; the fact of a well being exposed to specific pollution is infinitely more important to know than the result of chemical analysis at any given time. There is in Cheltenham a remarkable disparity of the sexes; out of every 1000 of its inhabitants, 410 are males and 590 females, when in England, as a whole, 485 are males and 515 females. The disparity is easily explained by the large number of the female sex employed, and by the presence of the Ladies' College. The death-rate of Cheltenham for 1892 was 18 per 1000 of the population, and the infantile mortality 135 per 1000 births.

Basford Rural Sanitary District.—Although this is nominally a rural district, it includes, as Dr. Scott Tew states, several thickly populated places, containing from 2000 to 6000 inhabitants, and therefore it can hardly be expected that the same low rates of mortality will be found as in a purely agricultural district. The zymotic and infantile mortalities are no doubt high, the former amounting to 2·64 per 1000 persons living, and the latter to 170·3 per 1000 births. As regards the zymotic death-rate, measles and whooping-cough have been responsible for more than half, the mortality from scarlet fever, diphtheria and diarrhœa having been below the average. The large number of deaths from zymotic diseases has obviously had an effect upon the infantile mortality. There were 297 cases of infectious disease notified under the Notification Act, but in no case did the head of the family, or person in charge, forward a certificate in accordance with Section 3 of the Act. Small-pox was introduced into the district by tramps, but the energetic steps that were taken to prevent its spread, were, on the whole, highly successful. There was a limited outbreak of enteric fever in a row of cottages, which was traced to a polluted well. Dr. Scott Tew is apparently one of the increasing number of advocates of the compulsory notification of measles, and, as he points out, although it might not be possible to isolate the cases, the mortality from the disease might be considerably diminished and members of infected households excluded from schools &c. We are glad to learn that a site for a fever hospital in the district has now been selected. Revision of the by-laws is being undertaken, and altogether the report before us holds out the prospect of much good work being shortly accomplished in this district.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 6298 births and 3927 deaths were registered during the week ending May 6th. The annual rate of mortality in these towns, which had been 21·4 and 19·7 per 1000 in the preceding two weeks, rose again last week to 19·8. In London the rate was 19·1 per 1000, whilst it averaged 20·4 in the thirty-two provincial towns. The lowest rates in these towns were 13·9 in Derby, 14·2 in Halifax, 14·3 in Cardiff and 14·5 in Leicester; the highest rates were 24·0 in Plymouth, 25·8 in Bolton, 26·0 in Preston, 27·8 in Manchester and 29·0 in Burnley. The 3927 deaths included 442 which were referred to the principal zymotic diseases, against 468 and 424 in the preceding two weeks; of these, 103 resulted from measles, 94 from whooping-cough, 79 from diphtheria, 55 from diarrhœa, 51 from scarlet fever, 37 from "fever" (principally enteric) and 23 from small-pox. No fatal case of any of these diseases occurred last week in Blackburn or in Sunderland; in the other towns they caused the lowest death-rates in Derby, Huddersfield and Halifax, and the highest rates in Manchester, Cardiff, Preston, Bolton and Plymouth. The greatest mortality from measles occurred in Hull, Preston, Leeds, Plymouth, Gateshead and Newcastle-upon-Tyne; from scarlet fever in Birkenhead; and from whooping-cough in Manchester, Salford, Cardiff, Norwich, Bolton and Brighton. The mortality from "fever" showed no marked excess in any of the large towns. The 79 deaths from diphtheria included 54 in London, 7 in Manchester, 3 in West Ham and 3 in Cardiff. Eleven fatal cases of small-pox were registered in London, 4 in Bradford, 2 in Birmingham, 2 in Oldham and 1 each in Nottingham, Liverpool, Manchester and Burnley; 531 cases of this disease were under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, against 423, 450 and 474 on the preceding three Saturdays; 161 new cases were admitted during the week, against 86 and 110 in the preceding two weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2161, against 2026, 2037 and 2103 on the preceding three Saturdays; 280 new cases were admitted during the week, against 280, 301 and 302 in the preceding three weeks. The deaths referred to diseases of the respiratory organs in London, which had declined from 416 to 351 in the preceding three weeks, further fell to 349 last week, and were 11 below the corrected average. The causes of 72, or 1·8 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Croydon, Portsmouth, Nottingham, Sunderland and in eight other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Birmingham, Blackburn and Halifax.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 22·7 and 20·9 per 1000 in the preceding two weeks, rose again to 21·5 during the week ending May 6th, and exceeded by 1·7 per 1000 the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 13·5 in Paisley and 15·4 in Perth to 20·7 in Greenock and 26·4 in Glasgow. The 606 deaths in these towns included 48 which were referred to measles, 29 to whooping-cough, 9 to scarlet fever, 8 to diarrhœa, 6 to "fever," 1 to diphtheria, and not one to small-pox. In all, 101 deaths resulted from these principal zymotic diseases, against 106 and 92 in the preceding two weeks. These 101 deaths were equal to an annual rate of 3·6 per 1000, which exceeded by 1·4 the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had been 58 and 47 in the preceding two weeks, were 48 last week, of which 35 occurred in Glasgow and 6 in Dundee. The deaths referred to whooping-cough, which had been 24 and 17 in the preceding two weeks, rose again to 29 last week, and included 23 in Glasgow and 4 in Edinburgh. The fatal cases of scarlet fever, which had been 6 in each of the preceding two weeks, rose to 9 last week, of which 7 occurred in Glasgow. The 6 deaths referred to different forms of "fever" were within one of the number in the previous week, and included 3 in Glasgow and 2 in Dundee. The deaths referred to diseases of the respiratory organs in these towns, which had been 122 and 149 in the preceding two weeks, declined again to 116 last week, and were 10 below the number recorded in the corresponding period of last year. The causes of 40, or nearly 7 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 28·6 and 26·0 per 1000 in the preceding two weeks, further declined to 22·2 during the week ending May 6th. During the past five weeks of the current quarter the death-rate in the city has averaged 25·4 per 1000, against 20·0 in London and 16·0 in Edinburgh. The 149 deaths in Dublin during the week under notice showed a decline of 25 from the number in the previous week, and included 16 which were referred to the principal zymotic diseases, against 12 and 4 in the preceding two weeks. Of these 6 resulted from whooping-cough, 5 from "fever," 3 from measles, 2 from diarrhœa, and not one either from small-pox, scarlet fever, or diphtheria. These 16 deaths were equal to an annual rate of 2·4 per 1000, the zymotic death-rate during the same period being 2·3 in London and 1·3 in Edinburgh. The fatal cases of whooping-cough, which had been 3 and 1 in the preceding two weeks, rose to 6 last week. The deaths referred to different forms of "fever," which had been 4 and 2 in the preceding two weeks, rose again to 5 last week. The 3 fatal cases of measles exceeded the number recorded in any week since the beginning of the current year. The 149 deaths registered in Dublin last week included 19

MONTHLY ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON.—APRIL, 1893.

(Specially compiled for THE LANCET.)

Sanitary areas.	Estimated population in the middle of 1893.	Notified Cases of Infectious Disease.											Deaths from Principal Infectious Diseases.										Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	4,305,551	470	1647	704	1	163	2	18	472	—	3457	10·5	19	125	89	172	210	—	28	2	51	696	2·1	6539	19·8	127
West Districts.																									
Paddington	120,277	12	36	27	1	5	—	—	13	—	94	10·2	1	—	3	7	6	—	2	—	—	19	2·1	166	18·0	154
Kensington	167,038	6	37	13	—	3	—	2	15	—	76	5·9	—	2	—	1	3	—	1	—	2	9	0·7	196	15·3	114
Hammersmith	103,674	6	31	9	—	2	—	1	6	—	55	6·9	—	—	4	1	3	—	—	—	—	8	1·0	129	16·2	89
Fulham	103,075	5	55	5	—	1	—	1	7	—	74	9·4	—	—	4	1	18	—	—	—	1	24	3·0	159	20·1	151
Chelsea	98,114	7	35	13	—	3	—	—	8	—	66	8·8	—	1	1	3	12	—	—	1	3	21	2·8	162	21·5	129
St. George Hanover-square	75,825	4	34	6	—	2	—	—	2	—	48	8·3	2	—	1	1	1	—	—	—	—	5	0·9	98	16·8	68
Westminster	54,761	9	10	—	—	1	—	—	7	—	27	6·4	—	1	2	1	—	—	—	—	—	4	1·0	93	22·1	155
St. James Westminster	23,873	3	2	7	—	—	1	—	1	—	14	7·6	—	—	—	1	1	—	—	—	—	2	1·1	39	21·3	54
North Districts.																									
Marylebone	139,546	37	41	29	—	7	1	—	20	—	135	12·6	—	—	3	12	10	—	—	—	3	28	2·6	247	23·1	117
Hampstead	73,949	3	45	9	—	2	—	—	—	—	59	10·4	—	—	3	1	1	—	1	—	2	8	1·4	91	16·0	80
St. Pancras	234,025	19	95	42	—	6	—	3	41	—	206	11·5	—	16	6	13	10	—	—	—	1	46	2·6	402	22·4	151
Islington	328,608	27	122	53	—	13	—	3	38	—	256	10·2	—	17	2	16	20	—	3	1	6	65	2·6	456	18·1	134
Hackney	240,177	6	96	41	—	14	—	—	25	—	182	9·9	—	3	4	7	11	—	4	—	2	31	1·7	326	17·7	126
Central Districts.																									
St. Giles	38,511	20	10	5	—	1	—	1	8	—	45	15·2	—	—	4	1	—	—	—	—	—	5	1·7	61	20·6	60
St. Martin-in-the-Fields	18,911	3	7	2	—	—	—	—	—	—	12	11·2	2	—	—	—	—	—	—	—	—	2	1·9	20	18·7	250
Strand	23,508	16	6	7	—	—	—	—	1	—	30	16·6	—	—	2	3	—	—	—	—	—	5	2·8	43	23·8	189
Holborn	32,646	8	15	5	—	—	—	1	5	—	34	13·6	—	—	1	2	1	—	—	—	—	4	1·6	69	27·5	118
Clerkenwell	65,163	2	42	21	—	6	—	—	9	—	80	16·0	—	1	2	7	3	—	—	—	—	13	2·6	117	23·4	152
St. Luke	41,406	1	11	4	—	3	—	—	13	—	32	10·1	—	3	1	—	3	—	1	—	1	9	2·8	108	34·0	164
City of London	35,383	6	7	7	—	1	—	—	1	—	22	8·1	1	—	—	—	—	—	—	—	—	1	0·4	81	29·8	44
East Districts.																									
Shoreditch	123,425	4	46	32	—	5	—	—	14	—	101	10·7	—	9	3	11	7	—	—	—	3	33	3·5	231	24·4	156
Bethnal Green	129,025	5	35	45	—	6	—	1	16	—	108	10·9	—	5	5	4	2	—	—	—	3	18	1·8	244	24·5	162
Whitechapel	75,163	16	23	11	—	4	—	—	11	—	75	13·0	3	1	—	2	2	—	1	—	1	10	1·7	165	28·6	113
St. George-in-the-East	45,182	5	14	14	—	2	—	—	7	—	42	12·1	—	4	—	6	—	—	—	—	1	11	3·2	103	29·7	149
Limehouse	57,386	16	32	9	—	7	—	—	7	—	71	16·1	—	—	4	3	13	—	—	—	—	20	4·5	122	27·7	179
Mile End Old Town	108,006	31	75	20	—	3	—	—	11	—	140	16·9	—	—	3	4	8	—	—	—	1	16	1·9	165	19·9	55
Poplar	168,876	23	107	67	—	22	—	—	43	—	262	20·2	1	1	5	8	4	—	5	—	4	28	2·2	289	22·3	126
South Districts.																									
St. Saviour Southwark	26,823	1	4	4	—	1	—	—	3	—	13	6·3	—	—	1	—	1	—	1	—	1	4	1·9	51	24·8	88
St. George Southwark	59,952	9	22	11	—	2	—	—	4	—	48	10·4	1	—	2	2	3	—	2	—	—	10	2·2	117	25·4	205
Newington	117,430	5	52	22	—	1	—	—	8	—	88	9·8	—	4	4	6	6	—	—	—	3	23	2·6	209	23·2	138
St. Olave Southwark	12,861	1	11	—	—	2	—	—	2	—	16	16·2	—	—	1	1	—	—	1	—	—	3	3·0	21	21·3	86
Bermondsey	84,244	9	23	6	—	3	—	1	9	—	51	7·9	—	2	1	3	—	—	—	—	1	7	1·1	122	18·9	114
Rotherhithe	39,764	14	17	5	—	1	—	—	3	—	40	13·1	1	—	1	1	4	—	—	—	—	7	2·3	55	18·0	146
Lambeth	280,567	13	98	33	—	7	—	—	26	—	177	8·2	—	3	4	6	11	—	2	—	4	30	1·4	381	17·7	99
Battersea	160,633	4	96	28	—	4	—	1	21	—	154	12·5	1	10	4	8	18	—	1	—	2	44	3·6	221	17·9	132
Wandsworth	169,379	1	49	12	—	7	—	—	20	—	89	6·8	—	—	4	3	1	—	2	—	3	13	1·0	173	13·3	85
Camberwell	246,837	24	64	15	—	6	—	2	16	—	127	6·7	1	3	1	4	11	—	—	—	1	21	1·1	326	17·2	141
Greenwich	173,349	67	49	25	—	6	—	1	13	—	161	12·1	3	18	2	9	12	—	1	—	2	47	3·5	237	17·8	166
Lewisham (excluding Penge)	76,593	7	18	14	—	2	—	—	8	—	49	8·3	1	6	—	4	1	—	—	—	—	12	2·0	79	13·4	79
Woolwich	41,794	3	6	3	—	—	—	—	3	—	15	4·7	—	1	—	—	3	—	—	—	1	5	1·6	53	16·5	151
Plumstead	94,192	12	39	23	—	1	—	—	7	—	82	11·3	1	14	1	9	—	—	—	—	—	25	3·5	113	15·6	*113
Port of London	—	—	—	—	—	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 54 cases of membranous croup.

† Including deaths from membranous croup.

of infants under one year of age and 35 of persons aged upwards of sixty years; the deaths of infants showed a slight increase, while those of elderly persons showed a further decline from recent weekly numbers. Five inquest cases and 5 deaths from violence were registered; and 62, or more than a third, of the deaths occurred in public institutions. The causes of 6, or 4 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING APRIL, 1893.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality during April in each of the forty-one sanitary districts of London. With regard to the notified cases of infectious disease in the metropolis during last month, it appears that the number of persons reported to be suffering from one or other of the nine diseases in the accompanying table was equal to 10·5 per 1000 of the population, estimated at 4,305,551 persons in the middle of this year. During the preceding six months the rate had steadily declined from 17·9 to 8·6 per 1000. Amongst the various sanitary districts the rates last month were considerably below the average in Kensington, Hammersmith, Westminster, St. Saviour Southwark, Wandsworth, Camberwell, and Woolwich; whilst they showed the largest excess in St. Giles, Strand, Holborn, Clerkenwell, Limehouse, Mile End Old Town, Poplar, and St. Olave Southwark. The prevalence of small-pox in London showed a further marked increase during April, an average of 118 cases weekly being notified, against 20, 40, and 61 in the preceding three months; of the 470 cases notified during last month, 67 belonged to Greenwich, 37 to Marylebone, 31 to Mile End Old Town, 27 to Islington, 24 to Camberwell, 23 to Poplar, 20 to St. Giles, 19 to St. Pancras, 16 to Strand, 16 to Whitechapel, 16 to Limehouse, 14 to Rotherhithe, 13 to Lambeth, 12 to Kensington, and 12 to Plumstead sanitary areas. The Metropolitan Asylum Hospitals contained 448 small-pox patients at the end of April, against 39, 80, 152, and 248 at the end of the preceding four months; the weekly admissions averaged 106, against 10, 20, 38, and 55 in the preceding four months. The prevalence of scarlet fever in London showed an increase upon that recorded in recent months; this disease was proportionally most prevalent in Fulham, Hampstead, St. Martin-in-the-Fields, Clerkenwell, Whitechapel, Limehouse, Mile End Old Town, Poplar, St. Olave Southwark, and Battersea sanitary districts. The Metropolitan Asylum Hospitals contained 2024 scarlet fever patients at the end of April, against numbers declining from 3843 to 1938 at the end of the preceding six months; the weekly admissions averaged 219, against 254, 223, 214, and 196 in the preceding four months. Diphtheria also showed slightly increased prevalence during the month under notice; amongst the various sanitary districts this disease showed the highest proportional prevalence in Paddington, St. James Westminster, Strand, Clerkenwell, Bethnal Green, St. George-in-the-East, Poplar, and Plumstead. There were 302 cases of diphtheria under treatment in the Metropolitan Asylum Hospitals at the end of April, against 283 at the end of each of the preceding two months; the weekly admissions averaged 61, against 49, 58, and 50 in the preceding three months. The prevalence of enteric fever also showed a slight increase during April; this disease was proportionally most prevalent in Clerkenwell, St. Luke, Limehouse, and Poplar sanitary districts. The Metropolitan Asylum Hospitals contained 50 enteric fever patients at the end of April, against numbers declining from 124 to 37 at the end of the preceding six months; the weekly admissions averaged 9, against 12, 10, and 7 in the preceding three months. Erysipelas showed the highest proportional prevalence during the month under notice in St. Pancras, St. Giles, St. Luke, Whitechapel, St. George-in-the-East, and Poplar sanitary districts. Three cases of puerperal fever were notified during April in St. Pancras, and 3 in Islington sanitary districts.

The mortality statistics in the accompanying table relate to the deaths of persons actually belonging to the various metropolitan sanitary districts, the deaths occurring in the institutions of London having been distributed amongst the various sanitary districts in which the patients had previously resided. The distribution of these deaths, and especially of those resulting from zymotic diseases, affords the most trustworthy data that can be secured upon which to calculate reliable rates of mortality. During the four weeks ending Saturday, April 29th, the deaths of 6539 persons belonging to London were registered, equal to an annual rate of 19·8 per 1000, against 19·2 and 19·8 in the preceding two months. The lowest death-rates during April in the various sanitary districts were 13·3 in Wandsworth, 13·4 in Lewisham (excluding Penge), 15·3 in Kensington, 15·6 in Plumstead, 16·9 in Hampstead, and 16·2 in Hammersmith; in the other sanitary districts the rates ranged upwards to 25·4 in St. George Southwark, 27·5 in Holborn, 27·7 in Limehouse, 28·6 in Whitechapel, 29·7 in St. George-in-the-East, 29·8 in City of London, and 34·0 in St. Luke. During the four weeks of April 696 deaths were referred to the principal zymotic diseases in London; of these, 210 resulted from whooping-cough, 172 from diphtheria, 125 from measles, 89 from scarlet fever, 51 from diarrhœa, 30 from different forms of "fever" (including 28 from enteric fever and 2 from ill-defined forms of continued fever), and 19 from small-pox. These 696 deaths were equal to an annual rate of 2·1 per 1000, against 2·1, 1·9, and 2·0 in the preceding three months. Amongst the various sanitary districts the lowest zymotic death-rates were recorded in Kensington, St. George Hanover-square, Westminster, City of London, Bermondsey, Wandsworth, and Camberwell; and the highest rates in Fulham, Shoreditch, St. George-in-the-East, Limehouse, St. Olave Southwark, Battersea, Greenwich, and Plumstead. Nineteen fatal cases of small-pox were registered in London during the month under notice, the corrected average number in the corresponding periods of the preceding ten years being 22; of these 19 deaths, 3 belonged to Whitechapel, 3 to Greenwich, 2 to St. George Hanover-square, and 2 to St. Martin-in-the-Fields sanitary districts. The 125 deaths referred to measles were less than half the average number; amongst the various sanitary districts this disease showed the highest proportional fatality in St. Pancras, St. Luke, Shoreditch, and Limehouse. The 89 fatal cases of scarlet fever exceeded by 40 the corrected number; this disease was proportionally most fatal in St. Giles, Strand, and Limehouse sanitary districts. The 172 deaths referred to diphtheria were more than double the corrected average number; amongst the various sanitary districts this disease showed the highest proportional fatality in Paddington, Marylebone, St. Pancras, Strand, Clerkenwell, Shoreditch, St. George-in-the-East, and Plumstead. The 210 fatal cases of whooping-cough were 88 below the corrected average; this disease was proportionally most fatal in Fulham, Chelsea, Limehouse, Mile End Old Town, and Battersea sanitary districts. The 30 deaths referred to different forms of "fever" were 15 below the corrected average; there was no marked excess of "fever" mortality during last month in any of the metropolitan sanitary districts. The 51 fatal cases of diarrhœa were slightly below the average. In conclusion, it may be stated that the mortality in London during April from these principal zymotic diseases was more than 15 per cent. below the average.

Infant mortality in London during the month under notice, measured by the proportion of deaths under one year of age to registered births, was equal to 127 per 1000, and was below the average; the lowest rates of infant mortality were recorded in St. George Hanover-square, St. James Westminster, St. Giles, Mile End Old Town, St. Olave Southwark, and Lewisham; the highest rates in St. Martin-in-the-Fields, Strand, St. Luke, Shoreditch, Bethnal Green, Limehouse, St. George Southwark and Greenwich sanitary districts

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THE SERVICES.

MOVEMENTS OF THE MEDICAL STAFF.

THE following officers have arrived in England on sick leave from India per *Malabar:* Surgeon-Major Haselden, and Surgeon-Captains Way and Thompson. The following have arrived on completion of a tour of service: Brigade-Surgeon-Lieutenant-Colonel Major, posted to Aldershot, Surgeon-Colonel Inkson, and Surgeon-Captains Dowman and Le Quesne, V.C. Brigade-Surgeon-Lieutenant-Colonel Maxham has left Barbadoes on relief. Surgeon-Lieutenant-Colonel Anderson, Retired List, has been appointed to the Charge at Bury St. Edmunds in succession to Brigade-Surgeon Boulton, resigned. Brigade-Surgeon-Lieutenant-Colonel Muir has been appointed to the Medical Charge of the Cambridge Hospital, Aldershot. Surgeon-Captain Wilson has joined the North-Western District for duty.

ARMY MEDICAL STAFF.

Surgeon-Lieutenant-Colonel James Francis Supple to be Brigade-Surgeon-Lieutenant-Colonel, vice R. N. Macpherson, retired (dated April 9th, 1893).

INDIA AND THE INDIAN MEDICAL SERVICES.

The following appointments are announced:—Surgeon-Captain J. C. S. Vaughan to act as Civil Surgeon of Monghyr until further orders. Surgeon-Captain F. O'Kinealy to act as Civil Surgeon of Nadia until further orders. Surgeon-Major R. Macrae, Civil Surgeon of Shahabad, to be Civil Surgeon of Puri. Surgeon-Captain J. R. Adie, Civil Surgeon of Backergunge, to be Civil Surgeon of Purnea. Surgeon-Major T. R. Macdonald, Civil Surgeon of Monghyr, to act as Officiating Deputy Sanitary Commissioner of the Western Bengal Circle. Surgeon-Major A. H. Leapingwell to be District Surgeon and Superintendent of Gaol, Vizagapatam. Surgeon-Major F. C. Reeves to be District Surgeon, Malabar. Surgeon-Captain G. C. Hall to be Civil Surgeon, Tellicherry, but to continue to do duty at the General Hospital, Madras. Surgeon-Major S. H. Browne, M.D., Principal of the Lahore Medical College, is appointed to officiate as Surgeon-Superintendent Presidency General Hospital, Calcutta, during the absence, on special leave, of Surgeon-Lieutenant-Colonel A. Crombie. With effect from the date of assuming charge, Surgeon-Major F. F. Perry, Professor of Surgery, Medical College, Lahore, is appointed to officiate as Principal of that College during the absence of Surgeon-Major S. H. Browne. Brigade-Surgeon-Lieutenant-Colonel C. F. Churchill, M.B., Army Medical Service, to be Principal Medical Officer, Peshawar District. Brigade-Surgeon-Lieutenant-Colonel W. T. Martin, M.D., Army Medical Service, having been appointed—in anticipation of promotion—to the Administrative Medical Staff of the Bengal Command, to be Principal Medical Officer, Allahabad District, vice Surgeon-Colonel R. P. Ferguson, transferred. 6th Bengal Infantry: Surgeon-Lieutenant C. G. Robson-Scott, to the Officiating Medical Charge of the regiment, vice Surgeon-Captain R. C. Macwatt. Surgeon-Lieutenant A. G. Hubbard, Indian Medical Service, and Surgeon-Lieutenant J. G. Hulbert, Indian Medical Service, whose services have been placed at the disposal of the Chief Commissioner, are posted to duty in the Bhamo District. Surgeon-Captain T. W. Shaw, M.B., Indian Medical Service (Bombay), is reappointed to officiate as Medical Officer of the 1st Regiment, Central India Horse, Surgeon-Captains W. H. Quicke and H. Herbert respectively delivered over and received charge of the Kaira District Gaol on April 14th, 1893. The following promotions are announced: Surgeon-Majors who have completed twenty years' full pay service to be Surgeon-Lieutenant-Colonels (dated April 1st, 1893)—David Wilkie, M.B.; Denis Peter Macdonald, M.D.; Oswald Baker; Frederick William Wright, D. S. O., M.B.—Surgeon-Captains who have completed twelve years' full pay service to be Surgeon-Majors (dated April 2nd, 1893)—Fredk. Daly Cæsar Hawkins; John Adams Cunningham, M.D.; Harry Chalmers Hudson; Alexander Silcock, M.B.; Patrick Mullane, M.D.; John Wm. Rodgers; James Farquharson Maclaren, M.B.

NAVAL MEDICAL SERVICE.

Deputy-Inspector-General of Hospitals and Fleets Maxwell Rodgers, M.D., has been placed on the Retired List, with permission to assume the rank of Inspector-General of Hospitals and Fleets (dated May 7th, 1893). The following appointments are announced:—Fleet Surgeons: Horace E. F. Cross to the *Tamar*, George Kell to the *St. Vincent* and Robert Hay, M.D., to Haulbowline Hospital (all dated May 8th, 1893) and Matthew F. Ryan to the *Colossus* (dated May 3rd, 1893). Staff Surgeons: Thomas W. Sibbald to the *Arethusa*, Edward W. Luther to the *Hawke*, George W. Bell to the *Melampus*, Thomas R. Pickthorn to the *Calypso* and Edward H. Saunders to the *Nile* (all dated May 16th, 1893); John Wilson, M.D., to the *Rodney* and Robert F. Yeo to Chatham Hospital (dated May 9th, 1893). Surgeons: W. G. Stott, M.B., M.A., to the *Vivid* (dated May 5th, 1893); Michael O'Brien to the *Hawke* (dated May 16th, 1893) and Samuel J. O. Oddie, M.B., to the *Albacore* (dated May 10th, 1893).

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant-Colonel William Malcolmson, having resigned his Militia appointment, ceases to be an Officer of the Army Medical Reserve of Officers (dated May 10th, 1893). Surgeon-Captain D. V. Rees, having resigned his Volunteer Medical appointment, ceases to be an Officer of the Army Medical Reserve of Officers (dated May 10th, 1893). Surgeon-Lieutenant Peter Murray Kerr, M.B., 3rd Volunteer Battalion, the King's Own Scottish Borderers, to be Surgeon-Lieutenant (dated May 10th, 1893).

YEOMANRY CAVALRY.

Royal Wiltshire (Prince of Wales's Own Royal Regiment) Surgeon-Lieutenant-Colonel J. B. Maurice, M.D., resigns his commission (dated May 6th, 1893).

VOLUNTEER CORPS.

Engineer: 1st Middlesex: William Henry Bourke, M.D., to be Surgeon-Lieutenant (dated May 6th, 1893).—*Rifle:* 2nd Volunteer Battalion, the Queen's (Royal West Surrey Regiment): Ernest Charles Drake, Gent., to be Surgeon-Lieutenant (dated May 6th, 1893).—3rd Lanarkshire: Surgeon-Captain A. Napier, M.D., to be Surgeon-Major (dated May 6th, 1893).—1st Volunteer Battalion, the Duke of Wellington's (West Riding Regiment): Edgar Duesbury Welburn, Gent., is reappointed Surgeon-Lieutenant (dated May 6th, 1893).—1st Volunteer Battalion, the Prince of Wales's (North Staffordshire Regiment): Surgeon-Captain J. Charlesworth, M.D., to be Surgeon-Major (dated May 6th, 1893).—2nd Volunteer Battalion, the Durham Light Infantry: Surgeon-Captain T. A. McCullagh to be Surgeon-Major and Surgeon-Lieutenant W. Robinson, M.B., to be Surgeon-Captain (both dated May 6th, 1893).—3rd (the Blythswood) Volunteer Battalion, the Highland Light Infantry: John Stewart McConville, M.D., to be Surgeon-Lieutenant (dated May 6th, 1893).

VOULNTEER MEDICAL STAFF CORPS.

The Norwich Company: Surgeon-Lieutenant C. H. C. Cosens resigns his commission (dated May 6th, 1893).

HARDWAR FAIR.

According to the *Pioneer Mail*, the experience of this year's *mela* or fair at Hardwar has been of good augury for the effect of the sanitary improvements recently carried out, to which we directed attention in our last number. The fair was of normal size and it is calculated that between 70,000 and 80,000 pilgrims attended it. No case of cholera occurred and the pilgrims dispersed free from all epidemic disease.

THE QUEEN'S REVIEW OF THE AMBULANCE DETACHMENTS.

On Saturday last Her Majesty inspected several detachments of the St. John's Ambulance Brigade in Windsor Park. The 360 men who paraded on that occasion are all working miners and members of colliery ambulance corps attached to the coal mines of Colonel Seely, M.P., in the counties of Derby and Nottingham. About 4000 miners are employed in these collieries. Of these 1323 hold certificates from the St. John's Association for proficiency in "first aid," and 422 have medallions of the higher grade, whilst 110 women have passed the examinations for "first aid" certificates. The ambulance movement seems to be popular in the mining districts, and deservedly so, for the information acquired is likely to be turned to practical account. Nearly all mining districts now have ambulance men qualified to administer first aid, and a number of the wives and daughters of the colliers have been trained as nurses by the St. John's organisation. The Queen watched with evident interest the different detachments in their exhibition of the various methods of rendering aid and succour to the wounded in battle or to those injured by accident. There were a large number of spectators assembled, in addition to those forming part of the Royal party. Colonel Seely, Surgeon-Major Hunter, late Rifle Brigade, Mr. S. C. Wardel and Mr. George Fowler took part in the proceedings, and Mrs. Wardel, with a band of nurses, had charge of a hospital tent which Her Majesty inspected. Illustrations of the methods for restoring those apparently suffocated by drowning or coal damp were given, in addition to an exhibition of "first aid" to wounded and the bearer drill. All the movements and practical illustrations were gone through with much precision and were evidently watched with great interest.

THE ROYAL SOCIETY.—At a meeting of the Council held last week fifteen candidates were selected to be recommended for election into the Society. Of this list the following are members of the medical profession: Professor J. C. Ewart, Professor W. T. Gairdner, Dr. C. S. Sherrington, Dr. E. C. Stirling and Professor J. W. H. Trail. The ballot will take place on June 1st, at 4 P.M.

ST. BARTHOLOMEW'S HOSPITAL: TESTIMONIAL TO DR. ANDREW.—A meeting will be held in the Great Hall at St. Bartholomew's Hospital on Wednesday, May 17th, at 4 P.M., to consider what form the proposed testimonial shall take and to appoint an executive committee. Sir James Paget will preside. Those interested are requested to accept this notice as an invitation to attend.

Correspondence.

"Audi alteram partem."

DIET IN CHRONIC BRIGHT'S DISEASE.

To the Editors of THE LANCET.

SIRS,—I beg to offer the following few remarks as bearing on the important question raised in the paper read by Dr. Hale White at the Medical and Chirurgical Society on April 25th. I have for many years been practically convinced of the uselessness of prescribing any more strict dietetic rules in cases of chronic Bright's disease, presumably ranking in the "granular" class, than may be indicated by the general symptoms in each individual instance apart from all question of urea excretion. After experience of many cases treated on a full mixed or ordinary diet, several of which had previously been long kept, according to usually received principles, on a diet as slightly nitrogenous as possible, I can say confidently with Dr. Hale White that I have had no occasion to regret the employment of this method, but rather much reason to be more than satisfied therewith. I have never observed any notable diminution in the quantity of urine passed by the patients thus treated, or any increase of albumen; and in some few cases where estimation of the amount of urea was made the results were various, as in Dr. Hale White's cases, and seemingly of no clinical importance. In many instances a notable improvement of the general health and a much diminished tendency to suffer from headache, weariness, and irritability soon followed the substitution of ordinary good living for the theoretically strict diet of the nephrologists; and in more than one case this amendment, with rapidly receding anæmia, was so striking and immediate (the patients soon resuming and enjoying ordinary or strenuous lives after many months or some years of invalidism and idleness), as to lead to the apparently inevitable conclusion that they had been suffering more from the treatment than from the disease.

With respect to the full-dieting of patients who not only have the signs and some of the general symptoms of kidney disease but also are sufferers from dropsy with much albuminuria and marked oliguria, and, still more, of those who are the subjects of "acute" or "subacute" nephritis, the question is wider and, of course, much more difficult. My own experience has not furnished me with much material from which useful conclusions can be drawn, as I have usually followed the old line of procedure; but I have ventured in several cases of these kinds, both of adults and children, to relax greatly the conventional rules with but little appreciable effect on the quality or quantity of the urine and with no resultant harm to the patient. In a few of these distinct improvement in feeling ensued on a more generous diet, even when the ultimate lessening of dropsy and increase of urinary flow were too late and too gradual to be ascribed to any change of treatment. I cannot but think that, if it be once established that an ordinary mixed diet does not increase the dangerous tendency to so-called "uræmia" or favour any other ill in cases of kidney disease, the treatment of chronic nephritis, and possibly of nephritis generally, might be authoritatively revised with great and multiform advantages to a large class of sufferers.—I am, Sirs, your truly,

Harley-street, W., May 2nd, 1893. H. B. DONKIN.

"CASES OF CONTRACTED TENDONS."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of May 6th Mr. Macready criticises the statement of Mr. W. T. Tivy (in THE LANCET of April 22nd) that cases of hammer-toe may be successfully treated by division of the extensor tendon, followed by immediate extension and massage, and asserts that the deformity is produced by a deficiency in the length of the lateral ligaments and that the division of the extensor tendon would be fruitless and disappointing. That the lateral ligaments are shortened in severe and long-standing cases of hammer-toe I have no doubt. Specimens showing this have been exhibited at the Pathological Society by Mr. Shattock and by myself. But on the other hand I have observed numerous instances of the deformity in an early stage in which I am convinced that the contraction of the extensor was the chief factor, and which were successfully treated by division of the tendon and subsequent manipulation. Surely, too, it is more in accordance with the function of ligaments and with our knowledge of the pathology of other deformities that ligaments should become shortened in adaptation to a long-continued muscular contraction than that they should be the active agents in producing a flexion which leads to subsequent muscular shortening.

It appears to me that the chief point in Mr. Tivy's communication was his recommendation that the tenotomy should be "followed by immediate and daily extension and massage of the divided tendons." This is in my opinion a great improvement upon the plan of keeping the foot at rest after tenotomy for a longer period than is needful for the healing of the punctures. It seems to me that there is considerable variety amongst the cases of hammer-toe that reach a degree calling for operative treatment. Some of these need only the division of the extensor tendon and subsequent stretching and manipulation; others need in addition the division of the lateral ligaments and sometimes of other restraining bands of fascia. Cases of longer duration and greater severity may be best treated by excision of the joint, whilst neglected cases and those in which the corn over the knuckle has become ulcerated, or in which the adjacent toes are distorted, are often best treated by amputation of the toe at the metatarso-phalangeal joint.

I am, Sirs, yours truly,

Savile-row, May 8th, 1893. WARRINGTON HAWARD.

To the Editors of THE LANCET.

SIRS,—Mr. Macready, in his comments upon my notes on cases of contracted tendons, overlooks the fact that it was only in cases of acquired hammer-toes, produced by overcrowding the toes in tight boots, that I advocated division followed by immediate massage and stretching of the extensor tendons. In ordinary cases of congenital hammer-toes, of course, the initial lesion is not in the extensors.

I am, Sirs, yours faithfully,

Lansdown-place, Clifton, May 9th, 1893. W. J. TIVY.

POISONING BY UNSOUND MEAT.

To the Editors of THE LANCET.

SIRS,—In view of the cases of wholesale poisoning from eating unsound meat, recently reported in THE LANCET, I should like to record my experience of scores of cases I see in the course of the year of a similar kind, but most frequently caused by eating unwholesome fish. There are in this neighbourhood a great many fried-fish shops, and it is no uncommon thing for one or more people to come to me with all the symptoms of poisoning after eating some of this food; generally they suffer from urticaria, severe cramps in the bowels, with profuse diarrhœa and sickness. So common is this that when these symptoms present themselves the first thing I say to them is, "You have been eating fried fish during the last day or two;" failing to elicit an answer in the affirmative, I then ask them if they have been eating rabbit or steak pudding, and one of these is generally confessed to. Now I have never had a fatal case, but I nearly lost a woman after eating mussels that her husband had brought from the seaside (he was a railway guard), but fortunately I saw her soon after she had eaten them, a general nettlerash having developed in a few minutes. I at once got rid of the contents of the stomach by means of an emetic and the patient got better. My invariable manner of treating these patients is by giving them the following aperient: Half an ounce of sulphate of magnesia, one drachm of carbonate of magnesia, one drachm and a half of tincture of hyoscyamus, one drachm and a half of spirit of chloroform, peppermint water to six ounces; an ounce to be taken every two hours. This invariably clears the bowels and a little alkaline tonic finishes the treatment. I do not pretend to say what the poison is, and I am under the impression that an expert a short time ago, in a court of justice, would not state positively what the poison was; but the fact remains, and this is the way I deal with these cases. Now what I should like to ask is this—If there be such a virulent poison circulating in the blood and the treatment such as here described has such a good effect, how far is the poison of cholera analogous to this, and is not Sir George Johnson's treatment of it by small doses of castor oil the correct one?

I am, Sirs, yours truly,

Harrow-road, May 2nd, 1893. A. L. GRIFFITH, M.D.St.And.

THE SEVENTH INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY, 1891.

To the Editors of THE LANCET.

SIRS,—The "Transactions" of the International Congress of Hygiene and Demography have been issued by the publishers and the delivery of them to the members of the Congress has been almost completed. Owing to various causes (changes of address, possible errors in the list &c.) some few copies have not found their owners and I ask you to kindly allow me to make use of your valuable columns to request those persons whose names are on the list of members and who have not duly received the "Transactions" to immediately notify the fact to Messrs. Eyre and Spottiswoode, East Harding-street, Fetter-lane, E.C.

I am, Sirs, your obedient servant,
G. V. POORE, Hon. Secretary General.

May 6th, 1893.

"SUBJECTIVE SENSATION OF THE MOUTH IN WOMEN."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Jan. 25th, 1890, under the above title, Dr. Hadden describes three cases where a peculiar burning sensation occurred in the mouths of women without apparent cause. In your issue of April 15th, 1893, under the heading of "A Case for Diagnosis," "J. D. R." records a case with similar symptoms but occurring in a man. At the present time I have a gentleman under my care who suffered in much the same way as "J. D. R.'s" patient. About twelve months ago he began to have a burning hot sensation on the right side of the tongue, which was more or less intermittent in character and varied in intensity. Thinking it was due to irritation from an artificial tooth he removed it, but with no benefit. The sensation gradually became worse and he described it as though hot fumes were coming from that side of the tongue and as though it was enlarged. It prevented him sleeping at times and was the source of much worry. About four or five weeks ago the pain became less and since then he has been entirely free from it, the first time for twelve months. There was neither loss of taste, nor touch, nor tenderness over the affected area and nothing abnormal was to be seen or felt. He is about sixty years of age, is a non-smoker and is healthy, but perhaps slightly neurotic. No special treatment was adopted.

I am, Sirs, yours faithfully,
J. HARLEY GOUGH.

Horrabridge, South Devon, May 9th, 1893.

WAS IT SMALL-POX?

To the Editors of THE LANCET.

SIRS,—With this I send you a copy of the *Woodford Times* with report of proceedings of the local board. I may add that the practitioner in question, in answer to my note, reaffirms his diagnosis that the case in question was one of modified small-pox. I never see the patients at the houses at which I call when infectious disease is notified. I hold it is not my duty to do so, as it would soon place me in very awkward positions. I would add that all the members of the board except the chairman agreed with me. Might I ask your opinion as to the matter of the county council and reports? The county council wants me to make all manner of reports to it but declines to pay for them, and I decline to make the reports. If they are worth anything they are worth paying for and I see no reason why I should do work for it without payment. I do not believe members of any other profession would be asked to do it. I am, Sirs, yours truly,

Woodford Green, May 9th, 1893. WILLIAM G. GROVES.

GUINEA-WORM IN A DOG.

To the Editors of THE LANCET.

SIRS,—I write to you regarding a case of guinea-worm in a dog which may interest your readers and elicit from some any similar case. I have had a good deal of experience with guinea-worms in man out here, but I have never known a case in an animal. Cobbold, in his "Entozoa in Man and Animals," 1879, does not give any example of such a case, and on page 224 he says that dogs are clearly unsuitable hosts. In this book one finds no reference to any other entozoon which could be mistaken for a guinea-worm. The dog, a small fox-terrier, belongs to an officer in my regiment, and I first saw it when we went to a camp of exercise in November, 1892. The dog then went lame in its off foreleg, but no cause for its lameness could be found. It ran about all day and did not seem much put out. It followed the regiment on a march of thirty-nine miles into cantonments in December and seemed to have got over its lameness. About a fortnight ago its owner came to me and said he had extracted a guinea-worm from his dog's leg whole. I must say I thought he was romancing; however, I could not see the worm, as it had been thrown away. I went to see the dog and found it had a swollen leg with a sinus above the elbow, from which was discharging some watery pus. I gave the officer an injection of zinc to use. A few days afterwards the dog was left in my care, as his master went on leave. When I took the dog it was feverish and had its leg much swollen. A long sinus ran down the inside of its leg. I made a counter-opening and washed it out with zinc lotion. In a day or two both openings closed and I let the dog run about and it seemed quite happy. The second day after this I found the abscess had refilled and so I opened it at both ends and from the lower end a piece of a guinea-worm protruded, which I seized and pulled out. I had then a portion of worm about ten inches long, and it was apparently identical with the guinea-worm found so often in man out here. The dog has made a good recovery. It could not have got the worm in these parts as it has not been here long enough and must have swallowed the embryo in its host at Muttra, up country. I am, Sirs, yours truly,

GEORGE KELLIE,
Surgeon-Major, 4th Lancers H.C.

Bolaram, Deccan, April 20th, 1893.

"MEDICAL OFFICERS OF HEALTH AND GENERAL PRACTITIONERS."

To the Editors of THE LANCET.

SIRS,—There is little doubt but that the action of the medical officer of health of Eastbourne against Mr. Barford will be very properly condemned by a considerable majority of medical men. The question of whether the scarlet fever had ceased—including the stage of desquamation—is not a question of preventive medicine, and therefore the evidence of the medical attendants would very properly be held to be better evidence than that of the medical officer of health. But, setting aside the evidence of opinion, there is the evidence of the fact that three months had elapsed, and this evidence is strongly in favour of Mr. Barford; and, further, setting aside all considerations of preventive medicine, is not a medical attendant bound by law, and by every other consideration, to look after the interests of his patient, whether the disease happens to be contagious or not? When removal becomes a part of the treatment, is considered right and necessary and is prescribed by the medical attendant, is a medical officer of health to have the power to say "You shall not"? No medical man takes these steps without proper precautions, and with proper precautions no one need hesitate to perform his duty to his patient conscientiously. By the views held by "the Bench" Mr. Barford is placed in an extremely awkward position. The friends of the patient could say to him, "If you consider removal necessary and you neglect your duty to our sick child, we shall take proceedings against you"; and, on the other hand, the medical officer of health says, "If you remove that child, I will take proceedings against you." Curiously enough, the case has been made one of interest to the profession generally and should be submitted to the more enlightened atmosphere of our superior courts, where doubtless Mr. Barford will come off with flying colours.

I am, Sirs, yours truly,
A POOR-LAW MEDICAL OFFICER.

London, W., May 10th, 1893.

"DEATH CERTIFICATION."

To the Editors of THE LANCET.

SIRS,—I live nearly two miles from the registrar of deaths for this district. Until recently I was able to obtain a book of certificate forms by sending for it; but now, it seems,

I must go myself and sign my name in a book in the presence of the registrar before I can obtain it. Therefore I must attend during the registrar's hours, which are from six till eight, five evenings a week. My evening consulting work occupies those hours every day in the week except Sunday. Is it fair to expect me to leave my surgery to take care of itself (even if it be only twice a year) whilst I go a distance of nearly two miles to obtain certificates? I think it is "adding insult to injury," seeing that we are not even thanked for the information we give in these certificates. What I should like to know is this: Can I be compelled, at a great inconvenience to myself, to attend at the registrar's office at certain hours to obtain a book of blank certificates? If not, what course should I take in the event of the registrar again refusing to forward me a book by messenger or post?

I am, Sirs, yours truly,

May 8th, 1893. REGISTRATION.

CHOLERA IN BRITTANY.

(FROM OUR SPECIAL CORRESPONDENT.)

Cholera and the Asylum of St. Athanase.—The Comma Bacillus in the River Odet.—M. Monod on the Cholera in Finistère.—A Labourer's Home and Diet.

ON April 6th a patient at the lunatic asylum of Saint-Athanase at Quimper, in the Department of Finistère, died of symptoms that were very similar to those of cholera. No other case occurred for two days, though several inmates suffered from diarrhœa, but they were persons whose health was, generally speaking, so precarious that there seemed to be nothing exceptional in such indispositions. Hopes were therefore entertained that the death which had taken place on April 6th would not be followed by further losses. On the 9th, however, there was another sudden death, and this was unmistakably due to cholera. That the disease should reach this asylum is in no wise surprising. At Lorient and in many villages of the neighbouring department of Morbihan a considerable number of cases[1] of cholera had occurred during the previous three months. Probably some of the patients brought to the asylum at Quimper had been travelling in Morbihan. It is only an hour and a half's railway ride from Lorient to Quimper. The cholera having reached the asylum, it soon spread to the town. The topographical position and the date of the cases show that the disease spread from the asylum to the town. The asylum of Saint-Athanase is a celebrated institution. It stands on an eminence of about 100 feet above the valley of the River Odet and therefore much above the streets of Quimper, which are built by the side of the river. The earliest parts of the building were completed in 1826 and may be qualified as very defective. The newer wings are, on the contrary, built with some care and observance of the laws of hygiene. At this asylum the patients are made to work in the fields. The grounds measure 33 hectares, belonging to the institution, and 12 more hectares are leased, so that altogether there are 45 hectares to cultivate by utilising the labour of the insane. The average number of patients amounts to 525. The waters of the Odet are employed for drinking purposes as also for agricultural work. There is no other supply. Perhaps this has been the medium of contamination. Before reaching the asylum the river passes under the walls of a hospital and it is not impossible that some of the hospital drainage falls into the river; but there were no cases of cholera at the hospital previously to those which occurred at the asylum. If, however, the Odet did not bring the cholera to the asylum, the latter has certainly imparted the cholera germs to the Odet. Dr. Calmette has just been analysing the waters of this river, collected immediately in front of the asylum, and has been able to detect the presence of the comma bacillus. This, in any case, may be taken as a plausible explanation of the spread of the disease to the inhabitants of the town. The first case in the town occurred on April 14th—that is, eight days after the first case in the asylum. The dejections of the patients may have filtered through the soil from the asylum to the river, this is the more likely as the first case occurred in the old part of the building, where there are cesspools that probably leak. Now that the mischief is done, the patients have been made to leave the less sanitary portion of the asylum and their dejecta are disinfected. Fortunately the consequences have not as yet been very serious, as there have been but twelve deaths in the town up to May 7th. The epidemic has, therefore, not assumed the alarming proportions mentioned by some misinformed papers. The Government is only aware of 37 deaths from cholera occurring at Quimper from April 6th to May 7th. Though this is not a large total, the fact that 25 of these deaths occurred in the lunatic asylum is serious, for this represents a proportion of 4·7 per cent. of the inmates.

For the present it seems as if the cholera epidemic in France were limited to the departments of Morbihan and Finistère—to the neighbourhood of Lorient and Quimper. Apart from the above news we possess in relation to this particular locality the most ample information. M. Henri Monod, now the Director of the Public Health Department at the Ministry of the Interior, was Prefect of Finistère during the last cholera epidemic. He profited by the opportunities which his official position supplied to organise a thorough investigation. The results have been published in a large volume, illustrated by numerous coloured engravings and the most elaborate plans.[2] From this work one can obtain a very accurate idea of the country where the cholera is now once more prevailing. Morbihan and Finistère differ very considerably from the rest of France. They form part of what used to be the old Duchy of Brittany. The population is of the Celtic race and in language and customs is altogether different from the other races which constitute the French people. For instance, Brittany is one of the few parts of France where the population increases. The increase from 1801 to 1886 amounted to 618 per 1000 inhabitants of Finistère, whilst the average increase for all France was only 418; but in the arrondissement of Quimper, where the cholera at present prevails, the increase of population during that period was equal to the very high figure of 1037 per 1000. Again, Finistère is unlike the rest of France in the sense that it has an essentially rural population. The average number of French subjects living in communes that have less than 2000 inhabitants per square kilometre is equal to 49·3 persons; in Finistère the proportion is 89·5. Then the families in Finistère are the most numerous in France, and Morbihan comes next on the list. The average for France is 3·9 per household, for Morbihan 4·7 and for Finistère 4·9. In France 20 per cent. of the existing families have no children; in Finistère only 11·7 per cent. are childless. On the other hand, M. Monod points out that, whilst the death-rate for the whole of France was equal to an average of 22·44 per 1000 from 1881 to 1886, it amounted to 23·92 in Finistère. Conjointly with this high death-rate should be noted the fact that, whereas in 1885 the number of persons married in France who could not sign their names amounted to 16·5 per cent., the proportion in Finistère was 44·6 and in Morbihan 48·8. Then 40·35 per cent. of the communes of France have a Bureau de Bienfaisance—that is, an office for poor-relief; but the proportion in Finistère amounted to only 14·09 per cent. Throughout France the beds number 1·47 in hospitals and 1·90 in asylums per 1000 of the population. In Finistère the proportion is for hospitals 0·92 and for asylums 2 beds per 1000. In France there was at the time of the last cholera epidemic one medical man per 2585 inhabitants; but in Finistère there was only one practitioner for every 6878 inhabitants. Deducting from this calculation the more important towns of Brest, Quimper, and Morlaix, there remains but one medical man for every 9154 inhabitants and for every 10,500 hectares. M. Monod mentions the canton of Bannalec, which has a population of 11,963 and an area of 19,616 hectares, and the canton of Plougastel, Saint Germain, with a population of 18,767, covering a space of 22,905 hectares. There is no medical practitioner in either of these places. In spite of—or perhaps it would be more correct to say in consequence of—the misery, ignorance and poverty of the population, excessive drinking is very prevalent. The average consumption of alcohol in France is 3·9 litres per inhabitant per annum; the average for Finistère is equal to 6 litres.

[1] See figures given in THE LANCET of April 15th, 1893.

[2] Le Choléra: Histoire d'une Epidémie, Finistère, 1885-1886, par Henri Monod, Directeur de l'Assistance et de l'Hygiène Publiques, Ancien Préfet du Finistère. Paris, Ch. Delagrave, Editeur, 15 rue Soufflot. There is also a smaller edition which forms part of the Recueil des Travaux du Comité Consultatif d'Hygiène Publique de France. Annexe aux Tomes xix et xx.

In view of all these distressing facts it is not surprising that cholera should visit Finistère. Indeed, every time that there has been cholera in France the epidemic has not spared this department. In 1832 it commenced at Quimper, the very town which to-day is again the first to suffer. In 1834 the cholera was first noted at Brest. The following is the list of cholera epidemics which have occurred in the department of Finistère :—

Year.	Number of communes affected.	Number of deaths.	Date of the first death.	Date of the last death.
1832-33	11 (?)	1730 (?)	May, 1832	November, 1833
1834-35	16	1167	July 14th, 1834	Feb. 22nd, 1835
1849-50	42	1456	Sept. 5th, 1849	March 10th, 1850
1854-55	19	1125	July 4th, 1854	Jan. 9th, 1855
1865-66	42	1316	Oct 27th, 1865	July 18th, 1866
1885-86	32	730	Sept. 22nd, 1885	April 23rd, 1886

There are other causes, besides those already mentioned, which contribute to the ready development of cholera in this department. There is no system of drainage. The soil near the inhabited houses is contaminated, and the wells in their turn are exposed to foul infiltrations. Out of forty communes water from very shallow wells is drunk in thirty-five. The soil on the surface is for the most part composed of very porous sand. Sometimes the borders of the wells are in no wise protected, and little streams charged with all manner of filth have been found flowing into the wells. Close to them and near the houses there is usually a manure-heap on which everything is thrown; yet the small rural municipalities are generally very much opposed to the closing of any wells and cannot be persuaded that the water in them is contaminated. As for the interiors of the dwellings, they may very often be compared to that of an Irish bog hut. M. Monod gives a description of Quimper such as he found it during the cholera epidemic of 1886, and as this is the town where the cholera has now reappeared one or two quotations will be appropriate : "Once the disease had penetrated the district of La Providence everything seemed to favour its development. This quarter is the home of the poorest inhabitants of Quimper. Badly fed, badly lodged, always dirty, they offered themselves as a ready prey to the scourge. Here is a sketch of the life of an able-bodied labourer aged about thirty, living at Quimper. He earns 1*s.* 5*d.* per day and works on an average twenty-three days per month, thus receiving 32*s.* per month ; he has a wife and three children ; he pays £2 a year, or 3*s.* 6*d.* per month, for his lodging. There remains for food and clothing for the whole family less than 1*s.* per day. In the morning they eat onion soup, in which a little grease has been put, or bread and coffee. At noon they eat boiled oats or potatoes and in the evening the same again, with baked flour-paste. They never have any meat, they rarely touch butter and they never have any wine or cider. On Sundays, when it has been possible to save a little money, the chief of the family drinks a frightful mixture which is called brandy and by which he is immediately intoxicated and prostrated." "When the wife works (but generally the care of the house and the numerous children absorb all her time) she may earn 8*s.* a month. The washerwomen, who have very hard work, earn 10*s.* a month, including meals, but only of the kind just described. Young girls working in the fields are given their food and 4*s.* 10*d.* per month. The dwellings are on a par with the food ; they are mere hovels containing one single room, however numerous the family may be. Of the 63 families which supplied the 86 cases of cholera, there were 59, comprising 240 persons, who had but one room, in which they had to sleep, to cook and to live. The other 4 families, comprising 17 persons, had each two rooms."

Though this year up to May 7th but twelve deaths had occurred from cholera amidst this wretched population, the fact that the disease has made its appearance in Finistère is a matter of great concern. Enough has been said to show that such a population is not in a fit condition to resist infection. The utter want of sanitation, combined with the extreme poverty and the ignorance that prevail, leaves the door wide open for the entrance of cholera.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Continued Drought.

THE uninterrupted fine weather which has prevailed hereabouts for so many weeks past is giving rise to great uneasiness, not only amongst farmers, who fear disaster to their crops, but on the part of those whose business it is to maintain the quality and sufficiency of our water-supply. Not the citizens of Manchester only, but also the inhabitants of Salford, Eccles, Stretford and several other neighbouring towns—numbering in the aggregate not far from two millions—are dependent on our Woodhead supply for their drinking water, and as only an infinitesimal quantity of rain has fallen on the gathering-grounds during the last six weeks it will readily be understood that the reservoirs are now running very low. Within the last week, too, renewed complaints have been made respecting the condition of the Ship Canal docks, the fluid contents (I will not call it water) of which are becoming extremely offensive. The inspector appointed by the Mersey and Irwell joint committee has just presented a report on the subject, in which he says that, having inspected the Ship Canal with the object of verifying, or otherwise, the numerous current complaints as to the condition of the water, he finds them fully substantiated. "The water," he says, "at the present time is very foul and the stench from it is abominable. When the canal is filled and the rate of flow is consequently reduced the condition of things will be very bad and local authorities with schemes of sewage disposal in hand should use their utmost endeavours to get their works in operation by the summer of 1894. By that time the bulk of the Manchester sewage will be under treatment and the Salford effluent will, we hope, be improved ; but there will still remain considerable pollution from towns higher up the rivers, whose schemes are only now before the Local Government Board." This is an important report and the serious state of things which it reveals should receive the prompt and sympathetic attention of the local sanitary authorities ; for, although we have for some time past been enjoying genial summer weather, it should nevertheless be remembered that the summer season has only just begun and we may therefore look forward to many months as yet of dry weather, which will have the effect of intensifying the canal nuisance unless something effectual be done before long.

Monsall Hospital and the Outside Townships.

At the last meeting of the City Council the old question regarding the use of Monsall Hospital by the sanitary authorities outside Manchester again came up for consideration. Several of the city fathers appear to be considerably exercised in mind because the Monsall authorities continue to take into their hospital patients from outside districts without even asking permission of the Council. The explanation of the matter is simple. Monsall Hospital is in no sense the property of the corporation, as the urban sanitary authority of Manchester. It belongs exclusively to the trustees of the Royal Infirmary, who under Act of Parliament are bound to provide a certain number of beds for the treatment of infectious diseases sent to them from a very wide area, besides that of the city itself. The Act referred to is a private one, obtained some thirty years ago by the infirmary trustees, who at that time wished to possess themselves of a then existing charity in Aytoun-street, in which fever cases to the number of about eighty were constantly under treatment. Under the Act of Parliament which transferred the Aytoun-street Hospital to the infirmary trustees, the latter undertook to keep ready for occupation not fewer than eighty beds for the use of persons suffering from fevers or other infectious diseases and residing practically anywhere in the counties of Lancashire or Cheshire. So long, therefore, as any of the eighty beds provided under the Act remain untenanted any infirmary subscriber has the right to send patients to Monsall irrespectively of the district from which he may hail. In the year 1890 the district of Newton Heath, in which Monsall Hospital stands, was absorbed into the city of Manchester ; but although the corporation, as the urban sanitary authority, have jurisdiction over the Newton Heath district they nevertheless cannot set aside an Act of Parliament or prevent the infirmary authorities from fulfilling their previous statutory engagements. According to the discussion at the recent and at previous meetings of the Council it appears to be the wish

of the corporation either to acquire Monsall Hospital by purchase or to build a new institution for municipal purposes, so that they may have the power of determining what cases should be admitted into the city for treatment.

The Small-pox Epidemic.

From recent official reports it appears that small-pox still continues to spread both in the city and in its immediate neighbourhood. Dr. Tatham reports the occurrence of thirty-three fresh cases in Manchester in the course of the week ending April 29th and twenty-six in the week ending on Saturday last. Cases were admitted during the first-mentioned week from ten out of the eleven registration sub-districts of the city, thus showing that the distribution of infection is still very general. The type of the disease still continues to be severe, many of the cases being of the confluent variety and so acute as to tax very severely the resources of the medical and the nursing staff. There are still some months, in all probability, before we can hope that this troublesome epidemic will come to an end.

May 9th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Bequest by the late Lord Derby to University College.

AT the ordinary meeting of the Council of the Liverpool University College on the 2nd inst. a communication was read from Lord Derby's solicitors announcing that the late Earl had left University College a legacy of £2000 for the foundation of a scholarship, prize or exhibition, as the Council might think most suitable. The following resolution, moved by Principal Rendall and seconded by Mr. Thomas Holder, was unanimously adopted: "The Council have received with deep regret the tidings of the death of the Earl of Derby, appointed by Royal Charter first president of the College, and, gratefully remembering the many services rendered by his lordship in the warm support and countenance accorded to the establishment of the College, in the foundation and endowment of the Derby chair of natural history, in unflagging interest in the welfare and progress of the College and habitual attendance at the annual public ceremonies, in liberal contributions to sustentation, building, athletic and other funds, desire to record their sense of the great loss which they have sustained and to perpetuate the memory of the late Earl by the erection of a stained glass window with his armorial bearings in the place of honour in the hall of the Victoria building, towards which he was a generous donor."

New Appointments at the Royal Infirmary.

The committee of the Royal Infirmary, having resolved to add special departments for the treatment of diseases of the throat and of skin diseases, proceeded on the 2nd inst. to the appointment of two gentlemen to hold the respective appointments of physician to these departments. Dr. J. M. Hunt was elected to the former and Dr. H. Leslie Roberts to the latter office.

Burial and Cremation.

The fifteenth and last ordinary meeting of the session was held at the Medical Institution on the evening of the 4th inst. A large number of members and some visitors, medical and lay, attended to see the various etchings which were exhibited and described by Mr. Seymour Haden. These etchings were selected, as he was careful to explain beforehand, not for any special merit that they might be supposed to possess, but chiefly to demonstrate in its several varieties the capabilities and *modus operandi* of the etching process; also to illustrate his views as to the utility of the etching process as a means of educating the eye and hand and generally of cultivating the observant faculty. At 8.30 P.M. the meeting assembled in the large theatre, when Mr. Haden proceeded to read his promised paper on the Rational and Sanitary Disposal of the Dead. This he considered under three headings: (1) To contrast burial as it is with burial as it ought to be, and, again, burial as it ought to be with cremation; (2) To test the validity of a statement made by Sir Henry Thompson at the Congress of Hygiene and Demography that burial is a propagation of infection and a cause of increase of the zymotic death-rate; (3) To prove that, as the practice of cremation renders any rectification of the assigned cause of death impossible, it cannot fail to prove an encouragement to crime, especially to those forms of crime which require for their detection prolonged and, it may be, repeated methods of investigation. Mr. Haden's views are so well known and have been so fully published in THE LANCET that any repetition of them is unnecessary. As for burial as it is, an illustration of it was shown by a member, in the discussion which followed, in the case of a lately deceased peer distinguished for his strong common sense on most subjects, especially sanitary matters, and yet whose last act was to enlarge the family vault under the chancel of the parish church in which his own mortal remains, enclosed in five coffins, have been entombed. To call such a proceeding burial is an abuse of language. As might have been expected, both burial and cremation had their supporters and their opponents. But there was a general agreement on two points. The one was that if burial is to continue it should be, as Mr. Haden suggests, in perishable coffins and in the earth. The other was that the cause of death should be ascertained beyond doubt, immediately after death and before decomposition has set in, as being a natural one. Exception was taken to Mr. Haden's suggestion of burial within a short period after death, the sentimental fear of burial whilst alive being still a very prevalent one. It is very desirable that this important subject should be discussed at all medical institutions and societies whilst the kindred subject of death certification is being inquired into by a Select Committee of the House of Commons.

May 8th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Newcastle Royal Infirmary.

IT was mentioned at the last Court of Governors of the Newcastle Royal Infirmary that the executors of the late Mr. Robert Walters, solicitor, Newcastle, had placed another sum of £1000 to the credit of the institution. The satisfactory condition of the finances was also referred to, as being the first time within about ten years that there was a balance to credit at the bank. The workmen's subscriptions, however, and the house-to-house collections had somewhat fallen off. The infirmary is doing as much work as ever.

Escape of a Small-pox Patient at Kendal.

Some alarm was occasioned at Kendal last week by the news that a patient suffering from small-pox had escaped from the hospital. It appears that she had been surreptitiously visited by her husband, who no doubt arranged the escape, which was somewhat frustrated by the police arresting them before they got out of the town. They belong to the class of tramps and were taken to the Town-hall and afterwards returned to the hospital. The event has necessitated the closure and disinfection of a portion of the Town-hall. At Jarrow there has been a fresh outbreak of small-pox. On Monday two cases were discovered which had not previously been seen or notified by any practitioner. The patients were at once conveyed to the hospital. Since then two other patients have been taken to hospital who were at first supposed to be suffering from chicken-pox, making in all nine cases since the outbreak.

Tees Port Sanitary Authority and its Cholera Precautions.

At the last meeting of the Tees port sanitary authority it was stated that during the last month 267 vessels had come into the Tees, and only in four cases was there illness on board, but not of a very serious nature. Mr. Thompson, medical inspector of the Local Government Board, who attended, reported the Tees district to be in a very satisfactory state and advised the two boarding stations to be in telephonic communication so that the medical officer might be able at once to deal with any urgent case. It was decided that the sum borrowed for the floating hospital should be increased by £1000, making the total amount for the purpose £8000. Mr. Thompson thought that the abatement of cholera on the Continent was owing to the dry season, but that the disease might become active on the advent of rain.

Lives Lost in Coal Mines.

Mr. J. L. Hedley, Government Inspector of Mines, has just issued his report for 1892. It is full of interest, but the following statement of the accidents in different parts of the district may be quoted here:—

	Separate accidents.	Number killed.	Number injured.
Cumberland	75	6	71
North Durham	103	22	84
Northumberland	149	45	113

A table of months in which the accidents occurred is also given, and it shows that the fewest separate accidents were in April and May—17 in each month—and the highest in December—38. The largest number of deaths in any month was in January—viz., 12, and the fewest in November—viz., 1. The number of injured was least in March—11—and most in December—31.

Advanced State of the Season in the North.

The *Northern Echo* says that a Darlington lady has already collected sixty different kinds of wild flowers in her neighbourhood this year, and from all accounts received the various fruits and trees are from three to four weeks in advance of what they were last year. Bathing has also pretty generally commenced on the coast.

Newcastle-on-Tyne, May 10th.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

The late Professor Macnamara's Appointments.

LAST Thursday the President and Council of the Royal College of Surgeons elected Sir Philip Crampton Smyly as the representative of the College on the General Medical Council. The vacancy at the Meath Hospital has been filled by the appointment of Mr. Edward Lennon.

At a recent meeting of the Standing Committee of the Meath Hospital the following resolution was passed unanimously: "That this committee, having heard with the deepest regret of the death of Professor Rawdon Macnamara, F.R.C.S., who for a period of thirty-two years as a member of the medical staff acted as surgeon to the hospital, desire to express their sincere sympathy with the sorrowing widow and family in their sore bereavement."

The Meath Hospital.

The annual distribution of prizes took place last Monday. Sir George Porter, Bart., D.L., who occupied the chair, alluded to the loss the hospital had sustained by the recent death of his life-long friend and esteemed colleague Rawdon Macnamara, who on a similar occasion two years since was standing at his side in that theatre, taking part in the distribution of prizes. Mr. Macnamara was a gentleman and a man of honour as well as a most accomplished scholar, and one whose unswerving friendship he (Sir George Porter) would find it very difficult to replace. The students, he knew, loved him, and he felt that they also mourned the loss of a kind and genial teacher. The following prizes were distributed:—First medical prize, William Taylor; second medical prize, George P. Moore; first senior surgical prize, I. Watkin; second senior surgical prize, W. R. Fenton; first junior surgical prize, Charles E. Hodgson; second junior surgical prize, P. J. Perkins.

Blackrock and Kingstown Main Drainage.

The Blackrock town commissioners have at present before the Select Committee of the House of Lords a Bill to provide for the drainage of both townships. Both are situated on the coast line, about two miles apart, and it is alleged that Blackrock cannot carry out a main drainage unless associated with Kingstown, as the sewage from the latter would pollute Blackrock. The Bill is opposed by the Kingstown town commissioners, who are represented by counsel before the Committee. By the proposed scheme the sewage of Blackrock and two-thirds of Kingstown would be taken away by the ebb tide. There would be a deep-sea outfall and the outflow pipe would be of such a size that the sewage accumulating from the previous high water would be discharged in about two hours some thirty-three feet below the surface and then carried by the current southwards past the entrance of the harbour and towards the Muglins. The cost is estimated at £32,000, or at the rate of 4½*d.* in the pound for Blackrock and 1½*d.* for Kingstown, the expenses of working being equally divided between the two townships.

Cork Water-supply.

The Public Health Committee of the corporation have again requested the Local Government Board to take action by insisting on the Macroom guardians providing a proper sewage system, as under the existing state of things a portion of the sewage of Macroom is permitted to flow into the Sullane, which is one of the tributaries of the stream from which the water-supply for the Cork Harbour District is taken. The Local Government Board have power to order the guardians to provide a proper sewage system, and if they failed to comply with the order they could be superseded and paid guardians could be appointed in their stead. The Board, however, singular to state, have acted in a very dilatory manner and have not put the necessary pressure on the Macroom guardians, although urgent appeals have been made to them to take action in the matter. The overflow from the sewage tank which receives the Nurserytown sewage can be seen flowing into the stream; but chemical and microscopic analyses have hitherto failed to discover any trace of sewage matter in the water-supply, a fact which is explained by the process of filtration which the water undergoes whilst flowing over the gravel bed of the stream from Macroom to Cork. However, not only may this gravel bed at any time become inoperative as a filtering medium, but, in the event of an outbreak of infectious disease, such as cholera, at Macroom, the germs of the infection would not be retained by this natural filter, but would, on the contrary, fructify in the transit from Macroom to Cork, and should such a contingency arise the water-supply to the city, bringing with it germs of the disease, would cause the infection to be widely spread over the district, notwithstanding any precautions that might be taken by the sanitary authorities. A great responsibility now rests on the Local Government Board, and they should without delay put in force the powers legally vested in them. A conference of medical practitioners and other citizens took place last Thursday, when the following resolution was unanimously adopted: "That, having regard to the alleged pollution of the water-supply of Cork and the apprehension of the cholera visiting the country, this committee requests the Local Government Board to appoint a specialist to inspect the waterworks and to hold an inquiry as to the alleged pollution of the water-supply to Cork and to suggest any improvement in the present system of supply."

Macroom Union.

An election for a medical officer to the union to fill the vacancy caused by the resignation of Dr. Warren Crooke took place last week, when Dr. Richard Barrett, medical officer of the Inchigeela district, was elected.

The Lord Chancellor has appointed the following gentlemen to the Commission of the Peace: Mr. John Clancy, for county Kerry; Mr. Andrew C. Flynn, for county Leitrim; and Mr. Nicholas Furlong, for county Wexford.

May 9th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Diagnostic Value of Subclavicular Palpation.

DR. HOTTENIER calls attention[1] to the value from a diagnostic point of view of bimanual palpation of the upper part of the chest. A congestive process limited to the apex may not be distinguishable at its commencement by percussion and auscultation. In such a case Dr. Hottenier recommends the following manœuvre: Whilst one hand is applied over the subclavicular region and the other is maintained over the corresponding scapula, the to-and-fro respiratory movements are followed by the two hands and a moderate degree of pressure is exercised by the pulp of the fingers in front during inspiration. Should no pain be thus elicited no appreciable lesion of that apex exists. Should the patient, on the contrary, complain of pain it is a proof that congestion is present.

A Novel Operation for Uretero-Vaginal Fistula.

M. Chaput[2] reports the following curious case: A young woman underwent the operation of vaginal hysterectomy for pyo-salpinx, the proceeding being followed by a left uretero-vaginal fistula situated high up. To remedy this state of things, an incision was made above Poupart's ligament, the peritoneum displaced upwards, and the dilated ureter exposed as a thick cord after some difficulty. This conduit was divided and the upper extremity fixed by a double row of sutures to the colon, whilst the lower portion was obturated by a ligature. Rapid recovery ensued, the patient experiencing no further inconvenience excepting the passage about four times daily of liquid motions. M. Bazy suggests that it might have been preferable to practise supra-

[1] Société de Médecine et de Chirurgie Pratiques, April 27th.
[2] Société de Chirurgie, May 3rd.

pubic cystotomy, and find out by catheterism whether the lower end of the ureter was obliterated or not. Should the canal have been permeable, he would after previous enlargement of the vesical opening have followed it up until the seat of the fistula was reached and then have fixed the supra-fistulous portion to the bladder incision. Should the lower portion of the ureter be found obliterated all intra-vesical methods should be abandoned and the cystotomic incision closed; then search should be made above and behind the bladder for the central end of the canal. This having been found, it should be sutured to the posterior wall of the bladder. M. Bazy opines that either of these procedures should be preferred to M. Chaput's method, seeing that the natural current of urine through the bladder is thus re-established and that all danger of ascending nephritis from bacterial contamination through the intestinal contents is avoided. That such a risk is run when the urinary flow is deflected by fistula or otherwise is proved by an observation of M. Routier. That surgeon last year practised vaginal hysterectomy on a young woman for left pyo-salpinx and hæmato-salpinx of the right side. The right kidney was, moreover, movable. After the operation the urine escaped per vaginam. Pressure on the right (movable) kidney determined a flow of urine by the vagina, proving the existence of a fistulous opening of the corresponding ureter. Autoplastic attempts having failed, right nephrectomy was performed. In the removed kidney there were discovered three infarcts and in the pelvis a collection of pus.

Proper Pride (!)

Ghys, the tramp who enjoys the distinction of having imported typhus fever into Paris, was recently condemned to a fortnight's imprisonment—not for having accomplished this insanitary feat, but for having mistaken somebody else's property for his own. The following dialogue between the accused and the judge is curious reading:—Prisoner: "Je venais de Lille. J'étais très malade, j'avais besoin d'argent pour me soigner." Judge: "Quelle maladie aviez-vous?" Prisoner (proudly): "Le typhus! C'est moi qui l'ai apporté au Dépôt à Paris." To what lengths will the rage for distinction lead?

The Habitat of the Female Itch-mite.

The exact situation of the itch burrows is somewhat vaguely indicated by dermatologists. Most writers state that they are placed in the Malpighian layer of the epidermis and Kaposi gives a figure bearing out the view that the female sarcoptes hominis lives constantly in this situation. In 1889 Török showed that the burrow and the acarus itself are found in the horny layer. M. Dubreuilh[3] exhibited preparations confirming this latter statement. Three burrows were, with the upper portion of the dermis, excised and the fragments, fixed by alcohol and coloured *en masse* with carmine, were mounted in paraffin and sections made. It was seen that the "run" and the space occupied by the mite were both contained entirely in the horny layer, the parasite being separated from the Malpighian layer by several series of horny epidermic cells.

May 9th.

Obituary.

ARNALDO CANTANI.

WE little thought when within the last few weeks we drew attention in our leading columns to the elaborate and instructive treatise, "Pro Silvis," in which a remonstrance was addressed to the Italian Government in abatement of the reckless tree-felling that has so changed the peninsula for the worse that its author, Professor Arnaldo Cantani, was so near the close of his brilliant and useful career. Yet such was then the condition of that great pathologist and consultant that none of those around him expected or desired for him a prolongation of life. Nephritis of many months' standing had worn out his strength and he succumbed on May Day at his house at Naples in his fifty-seventh year. He was born on Feb. 15th, 1837, at Hainsbach, in Bohemia, of Neapolitan parentage, his father having emigrated to that province of the Austrian empire in the prosecution of commercial enterprise. In 1855 he entered the University of Prague as a student in medicine and soon attracted the notice of his teachers by the enthusiasm and the energy with which he devoted himself to work. One of the most eminent of these—Professor Jacksch—was the first to recognise in him the best qualities of the Italian intellect and in 1860, shortly after graduation, appointed him his class-assistant in the department of clinical medicine. From that he became *privat-docent* in the same subject and not only delivered repeated courses of lectures on his own account, but frequently took the place of Professor Jacksch himself when that eminent consultant was unable to meet his class. About this time Cantani's fame had reached his compatriots, mainly through his masterly translation into Italian of Niemeyer's great treatise on Pathology and Therapeutics, a translation enriched with many original observations and inductions and so popular in Italy that in spite of its bulk it ran through three large editions in a few years. In 1864, accordingly, the Minghetti Administration invited him to fill the chair of Materia Medica and Toxicology in the University of Pavia—a post which he left in 1867 to become "Medico Primario" and Director of the Ospedale Maggiore at Milan. Here he stayed with brilliant success for a year, after which he was called, at the instance of the Government, to the chair of Clinical Medicine in the University of Naples. From 1868 till his death he devoted the best part of his powers to the development of that school, leading a life of tranquil industry in the pathological laboratory and in the clinical wards, which endeared him to colleagues and students alike. Here it was that his chief work was undertaken and completed—particularly those monumental studies in malaria, cholera, typhoid fever and the infective maladies in general which have brought him enduring fame not only amongst his compatriots but in all the greater European and Transatlantic schools. His translation of Niemeyer's work above noticed he had already supplemented by his memorable "First Case of Floating Liver" (1866), his "Observations on Collections of Air in Closed Body-cavities" (1867), and by his "Handbook of Pharmacology," in two volumes, of which a second edition appeared in 1884—all of these written in the German language. At Naples, however, his literary activity was confined to his native Italian, and in 1873–83 appeared his "Diseases of Metabolism," in 1881 his "Progressive Atrophy of the Skin," in 1873 his "Lathyrismus," in 1878–79 his "Enteroklysma," in 1880 his "Different Morbid Aspects of Individual Infective Disease," to say nothing of a vast number of occasional monographs and notes on his favourite themes of fever, inflammation and infection. For years few meetings, national or international, relating to medicine and surgery were without his intervention—his presence, especially at the annual Congresses of Internal Medicine in Italy, being fruitful of independent thought and trenchant, whilst eminently genial, criticism.

"The predominant note in Cantani's character," writes a Neapolitan correspondent, "was serenity. No one possessed a calmer, more perfectly balanced judgment; no one was further removed from all that savours of flattery or assentation. He had in a rare degree what professional men call the 'clinical eye'—a possession all the more remarkable in that he did not lay himself out so much for consultant practice as for investigation in the pathological laboratory. The honours, of which he had more than his share, came to him unsought, and he never was heard or seen to set store by them. Called in 1889 to the Senate of the kingdom, his health, never robust, kept him from taking part in its deliberations, except in rare crises in the State. Outside his professional sphere, and that was an extensive one, he had but one predilection—he was passionately fond of music."

On his death being announced Professor De Crecchio, Rector of the University of Naples, caused an eloquent tribute to his memory to be affixed to the College gates and the institutions appertaining to the school, and at the funeral ceremony which followed every interest in the city and province—official, academic and civic—was represented. *Oraisons funèbres* were pronounced over his bier in presence of a vast audience by Professor de Amicis, who dwelt on Cantani as a citizen and man of science; by the Senator Gallozzi, who appeared for the Medico-Chirurgical Academy of Naples; by Professors Cardarelli and De Renzis, who represented the Clinical Department of the Neapolitan School; and, not least touchingly and effectively, by Signor Antonino Anile, who spoke for his fellow students.

It was characteristic of the man that before death he expressed the desire that his body should be subjected to a post-mortem examination in order that the nature of his malady, which had been the occasion of so much thought and discus-

[3] Société Française de Dermatologie et de Syphiligraphie, April 8th.

sion on the part of his colleagues in consultation, should be finally disclosed. Accordingly, Dr. Otto Schrön, professor of pathological anatomy, proceeded to the necropsy in the presence of Drs. Cardarelli, Senise, Perli, Zagari, Ariotta and Rubino. The kidneys, as had been diagnosed from time to time during his illness, were then ascertained to be the seat of his malady—a diagnosis which he had himself acquiesced in. Chronic parenchymatous nephritis was entered as the cause of death.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

A COMITIA of this College was held on the 11th inst., the President, Sir ANDREW CLARK, Bart., in the chair. The newly elected Fellows were admitted; and communications were read from the Medical Defence Union and the British Institute of Preventive Medicine. The rest of the time was occupied in the discussion of matters of finance, which were declared to be "Secreta Collegii."

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AT an ordinary meeting of the Council of the above College held on Thursday, the 11th inst., Mr. THOMAS BRYANT, President, in the chair, the minutes of the Quarterly Council of April 13th were read and confirmed; Dr. C. B. Plowright was introduced and admitted a Fellow of the College; Mr. J. Bland Sutton was introduced and received the Jacksonian Prize for the year; and the report from the Committee on Vaccination was received and adopted. It is to the following effect:

"We, the Council of the Royal College of Surgeons of England, desire to put on record, at the present time, our opinion of the value of vaccination as a protection against small-pox.

We consider the evidence in favour of its life-saving power to be overwhelming, and we believe, from evidence equally strong, that the dangers incidental to the operation, when properly performed, are infinitesimal.

Experience has satisfied us that, even when vaccination fails to afford complete exemption from small-pox, it so modifies the severity of the disease as not only to greatly reduce its mortality, but to lessen the frequency of blindness, disfigurement and other grave injuries.

We should therefore regard as a national calamity any alteration in the law which now makes vaccination compulsory. We are moreover firmly convinced that revaccination is an additional safeguard and should be universally practised. We would add that we believe that the instructions of the Local Government Board for public vaccinators are well designed to secure the greatest efficiency in vaccination and to avoid the liability to risks from the operation."

The Council further agreed that the foregoing resolution should be made public and that a copy thereof should be sent to the Secretary of the Royal Commission on Vaccination for submission to the Commissioners.

The report of the Committee of Management was approved and adopted, and it was agreed—(1) That the University College of South Wales, Cardiff, and St. Paul's School, West Kensington, be placed on the list of institutions recognised for instruction in chemistry, including chemical physics, practical chemistry and elementary biology; and (2) that the Liverpool Eye and Ear Infirmary be recognised as an ophthalmic hospital under the conditions of Clause 11, Paragraph II., Section I. of the new regulations.

The annual meeting of Fellows of the College for the election of members of the Council will be held on Thursday, July 6th, at 2 P.M.

On the recommendation of the President and Vice-Presidents it was agreed to ask Mr. Alfred Gilbert, R.A., to execute a marble bust of the late Sir Richard Owen.

Medical News.

UNIVERSITY OF LONDON.—The following gentlemen have been elected Examiners in Medicine and Surgery and subjects relating thereto:—

Practice of Medicine.—John Cavaty, M.D., and J. F. Payne, M.D., B.Sc.

Surgery.—Professor Marcus Beck, M.S., M.B., and H. G. Howse, M.S., M.B.

Anatomy.—Professor D. J. Cunningham, M.D., D.Sc., LL.D., C.M., F.R.S., and R. Clement Lucas, M.B., B.S.

Physiology.—Professor W. D. Halliburton, M.D., B.Sc., F.R.S., and Professor William Stirling, M.D., D.Sc., C.M.

Obstetric Medicine.—C. J. Cullingworth, M.D., and Alfred L. Galabin, M.D., M.A.

Materia Medica and Pharmaceutical Chemistry.—Professor N. I. C. Tirard, M.D., and W. Hale White, M.D.

Forensic Medicine.—A. P. Luff, M.D., B.Sc., and Professor J. Dixon Mann, M.D.

Chemistry.—Professor H. E. Armstrong, Ph.D., F.R.S., and Professor Herbert M'Leod, F.R.S.

Botany and Vegetable Physiology.—Professor J. R. Green, M.A., B.Sc., and Professor Daniel Oliver, F.R.S.

Comparative Anatomy and Zoology.—Sydney J. Hickson, D.Sc., M.A., and Professor E. Ray Lankester, M.A., LL.D., F.R.S.

ROYAL UNIVERSITY OF IRELAND.—The following have passed the Second Examination in Medicine:—

Upper Pass Division.—Samuel T. Beggs, R. H. Cunningham, J. W. McHenry, Wm. Mackeown, Joseph Matson, Humphrey Turkington. [These may present themselves for the further examination for honours.]

Pass Division.—John Boyd, Alexander Burns, Isaac Byers, Wm. S. Carroll, James A. Clarke, Robert M. Clarke, Robert W. Clements, James Cowan, Stevenson L. Cummins, John H. Daly, Richard T. Dunlevy, John Dunne, George Elliott, Francis E. Evans, Denis P. Fitzgerald, Samuel F. Floyd, Thomas K. Greenfield, Patrick J. Hamilton, Francis Heron, Robert F. Huston, Thomas J. Kenny, Charles Kidd, Edward J. Liddle, Andrew L. McCully, Francis J. McGlade, William D. McMurtey, George J. Maguire, Arthur Moore, Robert Nevin, Henry J. Nugent, Edmund J. O'Farrell, Michael J. O'Kane, Henry S. Orr, Patrick M. Quinn, Hugh J. Ritchie, Walter S. Smyth, David Somerville, Wm. M. Spiller, John M. Tighe, Robert Wilbond, and George Younge.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH AND FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—At the April sittings of the Examiners, held in Glasgow, the following candidates passed the respective examinations:—

First Examination (Five Years Course.)—Patrick Pearse, County Kerry; Duncan M'Gregor, Aberfoyle; Alexander Ross, Glasgow. *In Division I. (Physics)*—A. Fletcher Jones. *In Division II. (Chemistry)*—Christina H. Stirling, Robert Mackie.

First Examination (Four Years Course.)—Alexander G. Hays, West Bromwich; Patrick B. Molony, County Limerick; David A. Chalmers, Glasgow; Robert S. Wells, Dumfries; L. Williams, London; Patrick J. Calnan, County Cork; David Spillane, County Kerry; John Roche, County Cork; Robert A. Cameron, Glasgow; John J. A. Sherry, Dublin; William Daly, Killarney; Richd. Fox, Nottinghamshire; Douglas M. Burnside, Belfast; James M. O'Sullivan, County Kerry; Hugh W. Macdonald, County Down; Charles W. Laver, Melbourne; John G. Gibson, New Cumnock; David S. C. Reid, Forfar; Alexander Duncan, County Kerry; William H. Madden, County Limerick; George H. Gill, Halifax; Charles A. Matier, County Down; Joseph S. Gill, County Tyrone; Alexander M. Wilson, Glasgow; Michael Higgins, Longfield. *In Division I. (Chemistry)*—James H. Stuart, Ernest N. Dickson, George Moreland. *In Division II. (Elementary Anatomy &c.)*—W. J. Turner.

Second Examination.—Duncan Fletcher, Argyllshire; Thomas A. Beadle Middleton-in-Teesdale; James S. Montgomery, Glasgow; Osborne Johnson, Bassingham; Adam Lees, Motherwell; James Waddell, Airdrie; George Gibson, Cork; David Alexander, Jamaica; James A. C. Park, St. Andrews; Alfred B. Steward, Lancashire; John A. Dyson, Hull; David Morrissy, County Cork; Albert E Lewis, Swansea; Joseph Tibbetts, Staffordshire; John Sheppard, Clonturk; Edward Reay Coffey, County Cork; Djunjeeshan H. Dantra, Bombay; Ella Cecilia Rawlinson, Norfolk; George B. Simpson, Sydney; William O. Evans, Pontardawe; A. J. O'Driscoll, Cork; Thomas Shunasy, Adelaide; James Rutherford, Dumfriesshire; Thos. C. Smyth, Victoria; James Pirie, Aberdeen; John F. Stevenson, Glasgow. *In Division I. (Anatomy)*—William Gordon, John W. Cuthbertson. *In Division II. (Physiology)*—Andrew H. Graham, Joseph Ingram. *In Division III. (Materia Medica)*—Laurence H. Hutchins Llewellyn Williams. *In Divisions I. and II.*—James Battersby, Thomas Gallacher, George Bryce, David W. Reese, Rose Turner. *In Divisions I. and III.*—George P. O'Connor. *In Divisions II. and III.*—Joseph A. Sanderson.

Final Examination.—William E. Jones, Corwen; P. Grodzenski, London; Alex. Bronte, New Zealand; Wm. D. Anderson, Glasgow; Henry William Stewart, Clogher; Joseph B. Tindall, Preston; Matthew Marriott, Sheffield; Allan Renny, Walkden, Bolton; John P. Roberts, Glasgow; Charles H. Roberts, Cathcart; William Owen, Portmadoc; J. D. O'Connell, Cashel; Richard G. Barnes, County Tyrone; Frederick William Woolrabe, Edinburgh; John Higgins Edinburgh; Barclay Wiggins, Bath; Reginald H. Wright, Lymm, Cheshire; Richard Price, Crewe; Robert Mayman, Oxford; P. M. Tobit, Edinburgh; Tom Dawson, Warriston, Carrie; Robt. W. Crooke, Glasgow. *In Division I. (Medicine)*—Arthur Neville, Wm. M. Keal, R. Mailer. *In Division II. (Surgery)*—John Elliott,

John A. Swanson, B.A.; Rees Thomas Jones. *In Division III. (Midwifery &c.)*—George H. Lodge, Wm. E. Blakely, James A. C. Park, John Macintosh, John Macmillan, H. D. O'Neale, G. G. Joynson, John J. Fitzgerald, David L. Lindsay. *In Divisions I. and III.*—James J. Gray. *In Divisions II. and III.*—John O'Connell.

UNIVERSITY OF ABERDEEN: GRADUATION IN MEDICINE.—The following candidates have received degrees in Medicine and Surgery:—

DEGREE OF M.D.

William Peacey, M.B., C.M., Brockley, London; Fredk. H. Saunders, M.B., C.M., Ripley, Yorkshire; George Snell, M.B., C.M., Berbice, British Guiana.

DEGREES OF M.B. AND C.M.

Alexander, Adam, Fyvie.
Allwood, J. A., Jamaica.
Anderson, N. W., Fraserburgh.
Bowie, J. C., Glasgow.
Brander, Robert L., Aberdeen.
Brown, Albert, Crathie.
†Brown, Alex., M.A., B.Sc., Ordiquhill.
Cameron, John, Beauly.
Campbell, Angus, Plockton.
Chetwood-Aiken, K.C., Bristol.
Cruickshank, A. L. P., M.A., Fraserburgh.
Duthie, W. C., Huntly.
Falconer, D. G., Cullen.
Fowler, Gordon, Kintore.
Gifford, George K., Shetland.
Grant, Cosmo, Lossiemouth.
Grant, Wm., Gartly.
Gregor, Alex., Pitsligo.
Hector, Wm., Aberdeen.
Ingram, John, Kennethmont.
Justice, W. A., Dovercourt, Essex.
Kennedy, J. R., Tain.
Macdonald, R. C., Aberdeen.
Marrett, C. R., Aurungabad, India.
*Mackintosh, A. W., M.A., Aberdeen.
Marshall, R. H., Aberdeen.
*Matheson, John, M.A., Plockton.
Milne, C. J., Aberdeen.
Mitchell, Robert, Fyvie.
†Moore, A. A., Havant, Hants.
Morgan, C. K., Invenkeilor.
Ogston, Alex., M.A., Crathie.
Pearse, W. W., Plymouth.
Philip, J. F., Skene.
Polson, Mark, Aberdeen.
Profeit, C. W., Balmoral.
Proudlove, E., Burnley.
Rajasingham, A., Ceylon.
Ritchie, James, Pintray.
Sharples, M. W., Great Harwood.
Sinclair, A. M. R., Inverness.
Sturrock, Geo., Aberdeen.
Thomson, Wm., M.A., Turriff.
Valentine, Leslie, Inverurie.
Watson, G. J. A., M.A., Stricben.
Williamson, G. A., M.A., Inverness.
Wingate, T. D., Stromness.
Wright, V. O., Ceylon.

* With highest honours. † With honourable distinction.

A. F. A. Fairweather, Pocklington, Yorks, has passed the Examinations for the degrees of M.B. and C.M., but will not graduate until he attains the necessary age.

The Diploma in Public Health has been conferred on John Wemyss Grant, M.B., C.M. Aberdeen.

DWELLINGS OF THE POOR.—At the monthly meeting of the Mansion House Council on Tuesday, Mr. John Hamer, the hon. secretary, read the report of the work done during the month. This showed that an inspection was being made by the London County Council of the dwellings in Deptford of which complaint had been made. Other districts had come under supervision, such as portions of Hoxton, Marylebone, Mile-end, Whitechapel, Greenwich, Rotherhithe, Islington, Poplar, Battersea &c., in each of which more or less serious defects had been found. It has been arranged that leaflets should be issued to the public on the subject of cholera and the best means of warding off the disease.

THE ANATOMICAL SOCIETY.—A general meeting of the members of this Society will be held at the Westminster Hospital Medical School on May 23rd, when, after the business connected with the election of new members has been gone through, the MS index of the first twenty volumes of the *Journal of Anatomy and Physiology* will be presented. The following exhibits will then be brought forward: Two examples of deficient ossification of the posterior arch of the atlas; misplaced kidney, with abnormal arterial supply; separation of the os styloideum from the third metacarpal bone; a sternalis muscle; and some abnormalities. Also papers will be read: the first by Professor A. Macalister on the Development and Varieties of the Atlas; the second by Professor Howse on the Pelvis of the Mammalia, with especial reference to that of a Young Ornithorhynchus.

THE GERMAN HOSPITAL.—The forty-eighth anniversary dinner of this hospital was held at the Hôtel Métropole on the 4th inst., when Prince Henry of Battenberg presided over a distinguished company of guests. After the customary loyal toasts had been drunk the chairman, in proposing "Prosperity to the German Hospital," said the institution, owing to the enormous increase of London, had gradually developed from a hospital intended for the relief of German artisans to a charity whose doors were open to all irrespectively of nationality. Last year 526 cases were admitted, 264 of which were cases of accidents. Patients to the number of 27,591 were last year treated in the hospital and the dispensaries attached thereto. Other toasts followed, and before the conclusion of the meeting the secretary announced subscriptions to the amount of £2586, including £200 from the German Emperor, £50 from the Emperor of Austria and £25 from the chairman.

THE FACTORY AND WORKSHOP ACT.—The *London Gazette* announces the appointment of the following inspectors under this Act: Miss M. E. Abraham, Miss M. M. Paterson, Mr. S. Fallows and Mr. J. J. Pender (the last two having the title of inspectors' assistant).

MEDICO-PSYCHOLOGICAL ASSOCIATION.—At the next quarterly meeting of this Association, to be held at the rooms of the Medical Society of London on Thursday next, at 4 P.M., the following papers will be read:—Mr. Gilmore Ellis on the Amok of the Malays, and Mr. Beadles on the Treatment of Myxœdema. Afterwards Dr. Murray Lindsay will open a discussion on the question, "Is it necessary for the efficient working of a county or borough asylum that the residence of the medical superintendent should be in, or immediately connected with, the asylum?" A list of candidates for election will be read. Notice has been given that the examinations for the certificate in psychological medicine and for the Gaskell prize will take place in July.

THE PREVENTION OF CRUELTY TO CHILDREN.—On Tuesday last the annual meeting of the Society established for the above purpose was held at the Mansion House, under the presidency of the Lord Mayor, who was supported by a number of noblemen and gentlemen well known for the interest they take in the welfare of children, especially of the poorer classes. The report gave a very satisfactory account of the benefits resulting from the operations of the Society. Thus during last year no less than 11,336 complaints of cruelty inflicted on children had been investigated and 10,171 of them had been found to be substantially true. The results of the labours of the Society's agents may be illustrated by the fact that in three years and a half the number of brutal assaults on young people had decreased 60 per cent. The Society's income had reached £39,081.

THE LONDON HOSPITAL CLUBS' UNION.—A dinner, which was largely attended by the students and hospital staff, was held in the library of the London Hospital Medical College on Monday last, to celebrate the amalgamation of the various students' clubs at the hospital into one single body—the London Hospital Clubs' Union. This result has been more especially desirable with the object of providing a suitable ground for the athletic clubs now included in the Clubs' Union. A field, with which those most interested are well pleased, has been secured within easy access of the hospital, and there can be no doubt that the increased facilities for "physical education" will be widely appreciated. Mr. Treves presided at the dinner and proposed the toast of the evening in a humorous speech. Several songs followed and a very pleasant evening was passed.

ROYAL MICROSCOPICAL SOCIETY.—At the last meeting of this Society several matters of interest were brought before the members. Mr. E. M. Nelson exhibited and described a mirror to be used instead of the camera lucida for the purpose of reflecting the real image from the microscope for drawing. Mr. C. Rousselet exhibited a Compressorium which enabled an object to be seen in every part of the field. The illumination of diatoms by light reflected from the cover glass formed the subject of a note by Dr. G. P. Bate. Mr. Bernard gave a *résumé* of his paper "On the Digestive Processes in Arachnids," in the discussion on which Professor Bell observed that the paper made it appear probable that digestion was not confined to the digestive tract, as was usually understood, and in that case it might be that they were on the eve of a series of observations which might throw a new light on the processes of digestion. Other members spoke of the importance of the paper. Mr. F. Chapman read a paper "On the Foraminifera of the Gault of Folkestone"; a paper by Professor D'Arcy Thompson "On a Tænia from an Echnida" followed; and, finally, Mr. C. H. Gill called attention to some pure cultivations of diatoms.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Infectious Hospitals Bill.

A PETITION in favour of this Bill has been presented to the House of Lords by the County Council of Durham.

The Marking of Foreign Meat, &c.

The House of Lords has appointed a select committee to consider and report "whether legislation for the purpose of requiring the foreign or

colonial origin of imported agricultural and horticultural produce—and especially meat, cheese and fruit—to be marked thereon or otherwise indicated, is necessary, expedient and feasible, and, if so, what are the provisions which such legislation should comprise." The actual motion for the appointment of the committee was made by the Earl of Kimberley, but Lord Ribblesdale is the peer who took the initial steps in the matter. Thirteen members have been elected to the committee, including Earl Stanhope, the Earl of Onslow, Lord Ribblesdale, Lord Carrington, the Earl of Winchilsea, the Earl of Crawford and Balcarres, and Lord Rothschild. The committee meet next week to elect their chairman and arrange the procedure.

Adulterated Food Stuffs.

On Thursday the Duke of St. Albans invited the Government to take steps in concert with foreign Governments to check, and if possible prevent, the importation of adulterated food stuffs consigned as pure butter, lard, cheese &c.

Prevention of the Pollution of Rivers.

The Standing Committee of the House of Lords met on Tuesday to consider, amongst other Bills, that on the Prevention of the Pollution of Rivers, and that Bill was ordered to be reported to the House without amendment.

Private Bill Legislation.

In the House of Commons the examiners passed the following Bills:—Local Government Provisional Order (Housing of Working Classes—Plymouth), Local Government Provisional Orders (No. 8—urban sanitary districts of Barking Town and other districts), Local Government Provisional Orders (No. 9—Brighton and other districts), Aire and Calder Navigation Bill, North-West Central Railway (Abandonment), Todmorden Local Board (Gas Purchase).

THE HOUSE OF LORDS.

FRIDAY, MAY 5TH.

Sale of Intoxicating Liquors (Ireland) Bill.

Lord O'Neill moved the second reading of this Bill and explained the object of the measure, which was to render permanent the Irish Sunday Closing Act of 1878, which had to be renewed from year to year, and to extend its provisions to the five large towns now exempt from its operation.—Lord Wemyss moved the rejection of the Bill, since, in his lordship's opinion, its operation would tend to curtail individual liberty and not conduce to the promotion of true temperance.—The Duke of Westminster, Lord Monteagle and Lord Spencer, on the other hand, supported the measure.—The result of further discussion was to induce Lord Wemyss to withdraw his amendment and the Bill was read a third time.

MONDAY, MAY 8TH.

Barbed Wire Fences.

The Barbed Wire Fences Bill was read a second time and the Rivers Pollution Prevention Bill passed through Committee without amendment.

THE HOUSE OF COMMONS.

THURSDAY, MAY 4TH.

Hours of Labour in Shops.

Sir J. Lubbock asked the Premier if the Government proposed to adopt the almost unanimous resolution passed by the House on March 21st in favour of reducing the excessive length of hours of labour in shops.—Mr. Gladstone said he had nothing to add to the reply given by the Home Secretary, who stated that it was not in the power of the Government at present to make any addition to the engagements already entered into with regard to this subject.

The Condition of School Buildings.

Mr. Round asked if the increased requirements of Schedule 7 were being insisted on with reference to office accommodation, lighting, warming &c. in schools where the arrangements in these respects had hitherto been passed by the Education Department.—Mr. Acland said that if the department admitted that because school buildings were once approved by it therefore they might remain in the same condition further progress would be arrested with regard to healthy surroundings of children attending school. The desire was to go on, as far as possible, to perfection and to bring school life, in respect of healthy surroundings, up to the standard of modern requirements.

MONDAY, MAY 8TH.

Vaccination from Calf Lymph.

Mr. Wharton put a question to Sir W. Foster on this subject.—The right hon. gentleman replied that there was an absence of general agreement amongst the members of the Local Government Board as to the efficacy of calf lymph as compared with that of the arm-to-arm method. There was reason to believe that the use of calf lymph afforded less protection against small-pox than did vaccination from arm-to-arm. Pending the sittings of the Royal Commission, however, the Board did not consider it expedient to propose any alteration in the arrangements already existing.

THURSDAY, MAY 11TH.

Introduction of the Vaccination Bill.

Mr. Asquith introduced the Bill of the Government to amend the Vaccination Act of 1867. He explained that its object was to give effect to the recommendations made in their interim report by the Vaccination Commissioners. These recommendations were to the effect that the imposition of repeated penalties in respect of the non-vaccination of the same child should be no longer possible and that persons imprisoned under the Vaccination Act should no longer be subjected to the same treatment as ordinary criminals, but receive the privileges of first-class misdemeanants or persons condemned for contempt of court. These recommendations were made quite independently of the question whether vaccination should continue to be compulsorily enforced. The Bill was read a first time, after Mr. Balfour had offered a few words of comment.

Lunatic Asylums in Ireland.

Mr. Kenny addressed to the Chief Secretary for Ireland a question with reference to the new rule of the Lunacy Board in Ireland, which provides for the abolition of the office of visiting physician or surgeon to district lunatic asylums in that country.—Mr. Morley, in his reply, said that the new rule had been issued in December, 1891, after careful consideration and as the result of the recommendation of Sir Arthur Mitchell's Committee. It was true that a few of the asylum boards had passed resolutions in favour of the retention of the office of consulting or visiting physician, but the great majority of the boards either expressed warm approval of the new rule or accepted it without any comment. He did not consider that any sufficient grounds had been made out for a reversion to the old system in this particular.

The Factory Act in India.

Mr. George Russell, Under-Secretary for India, explained that the Government have sent out an inspector specially to inquire into the underground work in connexion with Indian mines. Sir John Gorst asked whether special attention would be paid to the work of women. Mr. Russell replied in the affirmative.

The Ventilation of the House of Commons.

Mr. Shaw-Lefevre admitted, in reply to Mr. Knatchbull-Hugessen, that when large divisions took place members suffered discomfort from insufficient ventilation of the division lobbies, and he had instructed the attendants to open the windows before such divisions took place in order that there might be an inflow of fresh air.

THE COMMITTEE ROOMS.

DEATH CERTIFICATION.

THE Select Committee of the House of Commons on Death Certification resumed its inquiry on Friday, May 5th, Sir Walter Foster occupied the chair.

Dr. JOHN TATHAM, Lecturer on Hygiene to the Owens College and late Examiner in State Medicine to the University of Cambridge, was examined by Sir Henry Roscoe. He stated that for the last four years he had held the appointment of medical officer of health to the city of Manchester, and for several years previously he was similarly engaged in the adjoining borough of Salford. He believed the national system of registration of births and deaths to be a preventive measure of very great value, and that by educating the public and impressing the lower classes with a higher notion of the value of human life the system had been largely instrumental in effecting that general reduction in the death-rate which had taken place of late years. The city of Manchester at present contained more than half a million people, and amongst that population about 12,500 died annually. With regard to the 25,003 deaths registered in Manchester during the years 1891 and 1892 it appeared that the bodies were interred without a medical certificate and without the coroner's warrant in 471 instances. The proportion of uncertified deaths to total deaths in Manchester had steadily decreased during recent years. Thus in the five years 1881–85 the proportion was 2·42 per cent.; in the five years 1886–90 it was 2·32 per cent.; whilst in the two subsequent years it fell to 1·88 per cent., or just double the rate obtaining in London. In order to obtain needful information for preventive purposes, in addition to that received from the registrar, he invariably caused an investigation to be made by the sanitary inspector or female health visitor into the circumstances attending a death where there had been no medical attendance, and he found that, as a rule, uncertified deaths occurred only amongst the poorest classes of the people. In regard to house accommodation, for example, he found that 81 per cent. of the uncertified deaths occurred in cottages of not more than four rooms and that 30 per cent. occurred in one- or two-roomed tenements. In a preventive sense it was amongst young children that the due certification of death was of the greatest importance; but, unfortunately, it was amongst these young children that the largest proportion of uncertified deaths occurred. During the last two years there died in Manchester 6358 infants who had not completed their first year of life and the deaths of 330, or 5·2 per cent., were unattested by medical men. In the old township of Manchester the proportion of uncertified infant deaths was 6·4 per cent., and in certain districts of that township it was even higher than this; but in the better-class districts of North Manchester the proportion was less than half of that in the Manchester township, being 3 per cent. A long experience had convinced him that the failure of parents to procure medical attendance for their children was due in the majority of cases not to cruelty or to criminal intent, but rather to the slight value which persons of the lower classes attached to infant life; and he was confident that this feeling was encouraged and promoted by the fact that in England the registration of stillborn children was not as yet required by law. Any improvement in the registration law or in the methods of carrying it out should therefore begin by making compulsory the registration of stillbirths. In Manchester the proportion of stillborn children interred was equal to about 5 per cent. of the total interments. He based this statement on the experience of two large cemeteries which were under the control of the Corporation, and where in the course of the year 1892 the bodies of 7380 persons were buried. With respect to rather more than half of the 365 stillborn children a medical certificate was forthcoming stating that the children had actually been stillborn; but with regard to 45 per cent. of these the only voucher presented was that of a midwife or of some other unskilled person. It was a significant and to his mind dangerous fact that at the present moment 45 per cent. of the stillborn children and 5 per cent. of the live-born infants dying within their first year were interred in Manchester without competent testimony as to the cause of their death. As regards medical certificates of the cause of death, he thought that these should always be sent by the medical attendant direct to the registrar and on no account to the relatives of the deceased, as at present, for as long as the latter practice prevailed there would be a difficulty in persuading medical men to state

freely and fully the cause of death. Again, medical men should be encouraged to give fuller and more detailed information as to the cause or causes of death. That this was practicable he had himself repeatedly proved. On receiving from a local registrar a copy of a medical certificate in which the cause of death was indefinitely stated he was in the habit of writing to the certifying practitioner for additional information, and in this way he was able through the courtesy of his medical brethren to clear up doubtful points, and thus from time to time to increase the scientific value of the Manchester system of vital statistics. For instance, the term "peritonitis" was frequently returned as the cause of death of young women. Not infrequently this peritonitis turned out on inquiry to be due either to childbirth, to abortion or to some affection of the generative system. Again, the term "croup" was often vaguely used to describe at least two very different diseases. It might be that the disease was merely "laryngismus stridulus," a spasmodic affection of no great importance. On the other hand "croup" was occasionally used as a synonym for diphtheria of the larynx, and thus the grave and preventable character of the disease remained undeclared. In order to provide satisfactorily for the investigation of the circumstances attending uncertified deaths it appeared desirable that an official medical certifier should be appointed, at any rate in all large towns, who should be officially associated both with the coroner and with the death registrars. In most cases this officer would be the medical officer of health, and it would be his duty to inquire into the probable cause of every uncertified death and to render all necessary assistance to the coroner in the performance of his duties. By way of summary he would formulate his recommendations thus: 1. It should be made a penal offence to inter, under any circumstances, a dead human body without the formal burial certificate from the death registrar. 2. There should be appointed in every important town a medical certifier, whose duty it should be to inquire into the circumstances of every suspicious death and of every death where there had been no medical attendance. 3. In the ordinary medical certificate of the cause of death an attempt should be made to obtain verification of the fact of death as well as of its cause; and no certificate should be accepted unless the medical attendant certified, after actual inspection, to the identity of the body. 4. The medical certificate should be considered as State property and should be sent by the certifier direct to the registrar, who should treat the certificate as confidential. Great care should be taken that the books of forms of death certificate did not get into the hands of unqualified persons. 5. The burial certificate also, instead of being delivered, as at present, to the relatives of the deceased, should be forwarded by the registrar to the proper officer at the cemetery or graveyard and should be carefully preserved by him. This was necessary in order to avoid the possibility of the certificate being used more than once. 6. All stillbirths should be registered, with similar precautions to those considered necessary in the case of ordinary deaths.

By the Chairman: He thought that the greater facilities for obtaining medical advice now enjoyed by the poor was probably one of the causes of the steady decrease in Manchester of the number of uncertified deaths. He had been unable to satisfy himself as to the reason why in Manchester the number of uncertified deaths should be double that of London.

You are aware that there are a large number of so-called medical herbalists in Lancashire and Yorkshire?—Yes.

Do you think the prevalence of this form of practice has something to do with the uncertified deaths?—It might have.

Do you allow such persons to certify?—No.

Why?—I should regard a certificate coming from a person of that kind as utterly worthless for the purpose of registration.

Worthless from a scientific point of view?—I consider it a danger to the health and lives of the people.

That is to say, it might be the means of concealing a death from malpractices?—Yes.

Or possibly a death from more criminal acts?—Quite so. Further examined, witness said that, although he had no positive proof on the point, it was his general impression that in Manchester children were buried as stillbirths who had lived.

By Dr. Farquharson: He believed that with the registration of stillbirths infant life would be better looked after and that many lives would be saved.

By Dr. Cameron: In Manchester the death-rate amongst illegitimate was rather more than double the rate amongst legitimate children.

Mr. Luxmore Drew, coroner for the Western Division of London, submitted to the Committee further particulars with reference to a case cited by Mr. Braxton Hicks, at the same time expressing the view that there was much laxity on the part of medical men in furnishing certificates of death. In reply to questions by Dr. Cameron, he said that in his experience juries were of the greatest assistance at inquests. They took a deep interest in the cases, and he should not like to be without them.

Mr. William Vallance, Superintendant Registrar for Whitechapel, examined by the Chairman, explained the nature of his duties and the state of the law as to registration in certain of its aspects. He advocated a number of alterations in the form of the death certificate. For instance, he thought it should be clearly stated when the certifying medical man last saw the patient alive, that the "last illness" should be properly defined and that something should be done with the words "primary and secondary." He expressed himself strongly in favour of the certificate being sent direct to the registrar. He was afraid that the number of bodies buried without a certificate was very considerable in London. What he suggested in this connexion was that the certificate of the registrar should be produced at the cemetery and should be returnable to the registrar with an endorsement by the cemetery authorities as to the fact of the burial.

Mr. WALTER BROWN, clerk to the St. Pancras Burial Board, examined by Dr. Cameron, said that the board buried about 10,000 bodies per annum, and in hundreds of instances the certificate upon which the burial should take place was not presented. He would make the presentation of the certificate at the time of burial imperative. He would have every stillbirth registered and would not allow midwives to grant certificates. Another point with the witness was the issue of certificate forms. He thought they were issued much too freely and in consequence got into the hands of unqualified men.

The Committee then adjourned.

The Committee met again on Tuesday, May 9th, Sir Walter Foster in the chair.

Mr. GEORGE COLLIER, Deputy Coroner for South-East Middlesex and Secretary to the Coroners' Society, said in reply to the Chairman that he had been instructed by the Society to put before the Committee certain amendments in the law as to registration and burial which it had drawn up. There were about 300 coroners in England and Wales, and 154 of them were members of the Society. The first amendment was that all stillbirths should be registered. In this way much might be done to prevent crime and fraud. The next point was that no stillbirths should be registered without the certificate of a registered medical practitioner, and that in the absence of such a certificate the case should be reported to the coroner. No death should be registered unless the informant produced to the registrar a certificate touching the cause of death signed by a registered medical practitioner. He considered the present system of certification as loose and unsatisfactory and as opening the door to crime and fraud. No order for the burial of a body should be issued by the registrar unless the death had been registered as suggested or the permission of the coroner obtained in writing. At present bodies were frequently buried without a certificate. The next suggestion was that every order for burial should be produced to the person in charge of the cemetery at the time of or before the burial, and that no burial should take place without the production of this order, and, further, that the cemetery authorities should keep a register of all bodies buried showing the name and age of the deceased and the name and address of the persons conducting the funeral, and the burial orders should be filed at the cemetery. He considered the present form of death certificate satisfactory, although he admitted it might be improved if steps were taken to verify the fact of death. It would be a great advantage if, in cases of doubt, the coroner had the assistance of a medical expert or assessor.

Mr. H. NELSON HARDY, Metropolitan Police Surgeon for Dulwich, examined by Dr. Cameron, said he had come to the conclusion that the present system of death certification was unsatisfactory whether regarded from a statistical point of view or as a safeguard against crime. For scientific purposes the greatest accuracy was required and here they found it necessary to throw aside at least 5 per cent. of the deaths either as being not certified or certified in a manner that did not give the true cause of death. Take, for instance, the deaths in London during 1892. They numbered 86,000; of these, 11,906 were from zymotic diseases. Then it was said that this showed an annual rate of mortality from zymotic diseases of 2·8 per 1000 living; but it had to be remembered that there were still 5 per cent., or about 4000 deaths, unaccounted for, and if they added 1000 of them to the list of deaths from zymotic diseases their decimals would be altered considerably. He did not think that the prevention of crime was well attended to in the working of the present system. One day last month he was summoned by the police to see a man found lying in an outhouse. No post-mortem examination was ordered, the coroner appearing to think that witness should be able to say what the man died of by merely looking at him. In this case death from natural causes was returned. The circumstances were such as to suggest poison to him, and he mentioned that suspicion at the inquest. The coroner could do very much as he chose with the jury. It frequently happened that men followed the coroner from one inquest to another and became, so to speak, professional jurymen. He could not explain why they did so, because the County Council had abolished the shilling fee. In his opinion, the jury at a coroner's inquest was a farce. If a registrar did not see fit to accept a certificate because it was irregular he referred the matter to the coroner, who had inquiries made by his officer, a man knowing nothing about medical science. If the inquiries of the officer were satisfactory to the coroner nothing more was done. In all cases where a death was not certified by a qualified medical man upon the proper form the matter should, in his opinion, be referred to the police surgeon of the district. If, after full examination into the circumstances and viewing the body, he was satisfied, then he would have his certificate accepted by the registrar. If he was not satisfied, he would have the case referred to the coroner, with a recommendation as to whether or not a post-mortem examination should be held. If police surgeons were paid for this work they would not object to it. He was strongly of opinion that in a suspicious case the superior officers of police should have power to direct the police surgeon to make inquiry. As to the general question of death certification, he agreed with Sir Spencer Wells that a fee should be paid for the death certificate, more especially if it were necessary to pay a special visit to the house. If this were required for State purposes, then the State should pay the fee, and not throw the burden either upon the patient or the medical man. As to the form of the certificate, he would like to see the word "alive" inserted and the heading "Duration of the disease—years, months, days and hours" omitted.

By Dr. Farquharson: It was most unsatisfactory for a medical man to have to give evidence before a coroner who had not been trained in the most ordinary and elementary principles of medical jurisprudence. He would like to see medical men acting as coroners. Any man who was not a fool could acquire the requisite legal knowledge in six months. The jury might with all safety be left out altogether. They were mere ciphers. Coroners were an antiquated institution and the best thing to do with them was to abolish them altogether.

But in Scotland we are beginning to grumble because we have not got them.—Well, we can certainly spare you a few.

Dr. LITTLEJOHN, Medical Officer of Health of Edinburgh and President of the Society of Medical Officers of Health in Scotland, examined by Dr. Cameron, explained that his position was almost that of a medical coroner. He was summoned by the police to give a medical opinion in suspicious cases. All cases of suspicious death were inquired into privately by the police. A report was drawn up by the detective staff and the document was submitted to the Public Prosecutor, who extended the inquiry if he thought fit. The Public Prosecutor reported to the Lord Advocate, who was represented by an Advocate-Depute. It was then determined whether the case had been satisfactorily disposed

of, or whether ulterior steps should be taken for the ends of justice or for clearing up the case. There used to be hundreds of uncertified deaths every year in Edinburgh, but now there were practically none. Last year there were six, but the whole of them might have been avoided had the registrars taken a little more care. The five registrars in Edinburgh were municipal officers. When information reached them of a death where there was no certificate from a medical man they told the people to report themselves to witness. Witness then took down the name and address and proceeded to inquire into the circumstances of the case. At the same time he gave information to the detective department, who at once caused inquiry to be made. In their report to the Procurator Fiscal the detective department stated that witness was cognisant of the death and had examined into the circumstances. Witness went to the house, made an external examination of the body and if its appearance and the circumstances of the case justified him he took it upon himself to inform the Procurator Fiscal that he had certified the death as one due to natural causes. He did not examine simply the face but the whole body. If the Procurator Fiscal was satisfied he handed the report, coupled with an intimation that witness had certified the death, to the Crown authorities, and they disposed of the matter as they thought fit. If, on the other hand, witness could not certify the death, the Procurator Fiscal or Public Prosecutor continued his inquiry and ordered a post-mortem examination, which was made at the expense of the Crown by two medical men. He could not say that this system prevailed in any other large town, but if a suspicious death came under the notice of the Glasgow police authorities he had no doubt they would act just as he had described. In the case of a child it was certainly not enough for the registrar to be informed that it had been seen at a particular dispensary. The certificates of fourth-year medical students were accepted in Edinburgh, but these certificates bore the fact that they were given by medical students. He admitted that in England deaths thus certified would come under the heading of uncertified. Every year the Edinburgh police inquired into 300 cases, and of these he found that about fifty were cases of children under six months. The inquiries were made mainly with the view of making their registration books as complete as possible. He might mention that wherever a mere external examination of the body was not sufficiently satisfactory he at his own instance, and the friends seldom objected, made a partial examination of the chest or abdomen, and this often enabled him to give a more satisfactory certificate than otherwise would be possible. He had no complaint to make of apathy on the part of the Procurator Fiscal in ordering a satisfactory inquiry—a post-mortem examination, for instance. Some years ago Lord Watson, before giving up the office of Lord Advocate, increased the fee for post-mortem examinations from one guinea to two, but that was hedged about with so much red-tape that it had actually proved to be a saving of money to the public instead of putting more into the pocket of the medical man. Asked whether there was any reluctance to incur the expense of a post-mortem examination, witness said that in Edinburgh they were near the Crown Office and the Procurator Fiscals were greatly under the power of the office, but in the country he had heard complaints from medical officers of health and others as to the reluctance of Procurator Fiscals to expose themselves to snubs from the Crown Office for incurring expense by post-mortem examinations. Such complaints had been brought to his notice as President of the Society of Medical Officers of Health in Scotland. He had instructed those who complained how to direct their remonstrances to the proper quarter. But it had to be borne in mind that behind the Crown there was a still greater power—the Exchequer. The passing of the accounts was done by the Exchequer. He considered that the system in force in Edinburgh was feasible for the country generally. Medical officers of health would be glad to adopt it, because it meant for them more work and more fees. Many medical officers of health in Scotland had to complain of refusal on the part of registrars to furnish the data necessary for vital statistics. He had no such complaint to make on his own account because in Edinburgh the registrars were treated generously. A mistake had been made in asking for the information as a right instead of as a favour and he felt confident that if the country registrars had been approached in the first instance in a proper way no difficulty would have arisen. He thought the registrars were entitled to remuneration for the extra trouble, having regard to the way their salaries had been cut down. He could see no objection to intelligent medical students being empowered to certify deaths when they had been in attendance on the patients, as they were in Edinburgh under competent supervision. So far as the detection of crime was concerned, the present system of certification was a perfect farce. It allowed eight days to the layman to intimate the death and seven more for the doctor to give his certificate. In cases of sudden death and suicide he thought the present system of private inquiry sufficient, but agreed that public inquiry would be beneficial in the case of deaths in public works, mines, railways &c.

By Dr. Farquharson: He considered the Scotch system preferable to the coroner's system in vogue in England, chiefly on account of the important preliminary inquiries conducted in private by an efficient detective staff guided by the Procurator Fiscal.

The Committee then adjourned.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ABRAM, JOHN HILL, M.D., M.R.C.P. Lond., has been appointed Assistant Physician to the Stanley Hospital, Liverpool.

ANCRUM, G. WAYLAND, M.B., C.M., L.R.C.S., L.R.C.P. Edin., has been appointed House Surgeon to the Gloucester General Infirmary and Eye Institution, vice Johnson, resigned.

BELDING, D. T., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the East Dereham Sanitary District of the Mitford and Launditch Union.

BEST, W. J. M.R.C.S., D.P.H., has been appointed Medical Officer of Health for the Louth Urban Sanitary District of the Louth Union, vice Domenichetti, resigned.

BICKNELL, A., M.B., Ch.B. Vict., has been appointed Medical Officer for the Brownlow Hill Workhouse, the Parish of Liverpool, vice Garman.

BRONNER, HERMANN, M.D. Strasburg, L.S.A., has been appointed Honorary Medical Officer to the Bradford Infirmary.

BURDWOOD, J. W., L.F.P.S., L.M. Glasg., has been reappointed Medical Officer of Health for the Bourne Rural Sanitary District of the Bourne Union.

CHAPMAN, CHAS W., M.B., C.M. Edin., has been appointed House Physician to the Bradford Infirmary.

DOMENICHETTI, R., M.D., L.R.C.S. Edin., has been reappointed Medical Officer of Health for the Louth Rural Sanitary District.

DYKE, T. J., F.R.C.S., L.M., has been reappointed Medical Officer of Health for Merthyr Tydfil.

EDWARDS, ARNOLD J., M.B., B.Ch. (Vict.), has been appointed House Surgeon to the Leeds General Infirmary, vice Ouston.

FINLEY, HARRY, M.B., M.R.C.S., L.R.C.P. Lond., has been appointed Junior House Surgeon to the Cumberland Infirmary, Carlisle.

FLOWER, FRED. J., M.R.C.S., has been reappointed Medical Officer of Health for the Warminster Urban Sanitary District.

GAMGEE, L. P., L.R.C.P. Lond., M.R.C.S., has been appointed Resident Medical Officer to the General Hospital, Birmingham.

GRACE, HENRY, L.R.C.P. Lond., L.M., M.R.C.S., has been reappointed Medical Officer of Health for the Kingswood Local Board.

HANN, R. G., M.R.C.S., L.R.C.P., has been appointed House Surgeon to the Leeds General Infirmary, vice Whitehead, resigned.

HARVEY, GEORGE, L.R.C.P. Edin., L.R.C.S. Irel., has been reappointed Medical Officer of Health for the Matlock Bath Urban Sanitary District.

HOWAT, R. K., M.B., C.M., M.R.C.S., L.R.C.P., has been appointed Clinical Assistant to the National Hospital for Diseases of the Heart and Paralysis, Soho-square, W.

HUBBARD, F. E., L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer of Health for the Diss Urban Sanitary District.

HUGHES, A. E. P., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Bradford Infirmary.

HUNT, J. M., M.B., C.M. Glasg., has been appointed Medical Officer to the Royal Infirmary, Liverpool.

JAMIE, R. W., M.B., C.M. Edin., D.P.H. Camb., has been appointed Medical Officer for the No. 5 Sanitary District of the Ashby Union.

KYNOCH, J. A. CAMPBELL, M.B., C.M. Edin., has been appointed Assistant Physician to the Dundee Royal Infirmary.

LATHBURY, F. R., L.S.A., has been appointed Medical Officer for the Sarratt Sanitary District of the Watford Union.

MASON, WM., L.R.C.P., L.R.C.S., L.M. Edin., has been reappointed Medical Officer of Health for the St. Austell Urban Sanitary District.

MAW, H. TRENTHAM, M.A., M.B., B.C. Cantab., has been appointed House Surgeon to the Leeds General Infirmary, vice Rowell.

MEREWETHER, A. E., M.R.C.S., L.R.C.P., has been appointed Assistant Medical Officer to the Wandsworth Provident Dispensary.

MOLYNEUX, H. J., L.R.C.P., L.M. Edin., M.R.C.S., has been reappointed Medical Officer of Health for Billinge.

NEECH, J. T., L.R.C.P., L.M. Edin., L.F.P.S. Glasg., has been reappointed Medical Officer of Health for Atherton.

NIGHTINGALE, P. A., M.B., C.M., has been appointed Physician to H.H. the Sultan of Johore.

PAPILLON, T. A. F.R.C.S.E., has been appointed House Surgeon to the Wolverhampton Eye Infirmary, vice Anderson, resigned.

PESKETT, A. W. C., M.B., B.C. Camb., M.R.C.S., has been reappointed Medical Officer for Burnham.

PILKINGTON, F. W., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health for the Adlington Urban Sanitary District of the Chorley Union, vice Whitham, deceased.

PORTER, GEORGE, M.B., C.M. Edin., has been appointed Assistant House Surgeon to the Gloucester General Infirmary and Eye Institution, vice Dr. G. W. Ancrum, promoted to the senior post.

PURVES, A. S., M.D., C.M. Edin., has been appointed Medical Officer of Health for the Alnwick Rural Sanitary District.

RAWLINGS, HORATIO E., L.R.C.P. Irel., M.R.C.S., has been appointed Medical Officer of Health for the Gower Rural Sanitary Authority.

REYNOLDS, H. D., L.R.C.P., L.M. Edin., M.R.C.S., has been reappointed Medical Officer for Pembroke Dock.

RICHARDSON, JOSEPH, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Junior House Surgeon to the Bradford Infirmary.

ROBERTS, EDWD. C., M.R.C.S., has been reappointed Medical Officer of Health for Southgate.

ROBERTS, H. L., M.B., C.M. Edin., has been appointed Medical Officer to the Royal Infirmary, Liverpool.

ROBERTS, J. LLOYD, M.B., C.M. Edin., D.P.H. Eng., has been reappointed Medical Officer of Health to the Abergele Local Board.

ROTHERA, FRANK, M.D., C.M. Edin., M.R.C.S., has been appointed Medical Officer of Health for Beeston, Notts.

ROGERSON, C., M.B. Lond., has been appointed House Physician to the Leeds General Infirmary, vice Codd.

TEMPEST, H., M.R.C.S., L.R.C.P., has been appointed Resident Medical Officer to the Ida Hospital, Cookridge.

THOMAS, D. L., M.R.C.S., L.R.C.P., L.S.A., has been appointed Clinical Assistant to the National Hospital for Diseases of the Heart and Paralysis, Soho-square, W.

TIDSWELL, HERBERT H., M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Visiting Medical Officer to the Seaside Home, Whitby, vice Dr. Sherwood, deceased.

TOMPSETT, R. H., M.R.C.S., L.R.C.P., has been appointed Assistant Resident Surgeon to the Nottingham General Dispensary.

TRIMBLE, ROBT., M.D. Glasg., F.R.C.S., D.P.H. Irel., has been reappointed Medical Officer for Walton-le-Dale.

TWINING, A. H., M.D. Durh., M.R.C.S., D.P.H. Camb., has been reappointed Medical Officer of Health for the Kingsbridge Rural Sanitary District.

WALKER, W. W., B.A., M.B., B.C. Cantab., has been appointed House Physician to the Great Northern Central Hospital, Holloway, N.

WILLIAMS, E. H., M.R.C.S., has been reappointed Medical Officer for the Carnarvon Port Sanitary Authority.

WILSON, THOMAS, M.D., B.S. Lond., M.R.C.S., has been appointed Assistant Obstetric Officer of the General Hospital, Birmingham.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

CANCER HOSPITAL (Free), Fulham-road, S.W. — House-Surgeon for six months; salary at the rate of £50 per annum, with board and residence.
CHILDREN'S HOSPITAL, Birmingham. — Resident Medical Officer. Salary £70 per annum, with board, washing and attendance in the hospital.
CHILDREN'S HOSPITAL, Birmingham. — Resident Surgical Officer. Salary £50 per annum, with board, washing and attendance in the hospital.
CHORLTON-UPON-MEDLOCK DISPENSARY, Manchester.—Resident House Surgeon, unmarried; salary £100 a year, with furnished rooms and attendance.
HALIFAX INFIRMARY AND DISPENSARY.—Assistant House Surgeon unmarried. £50 per annum, with residence, board and washing.
HOSPITAL FOR SICK CHILDREN, Great Ormond-street, Bloomsbury, W.C.—House Physician, for six months. Salary £20, with board and residence in the hospital.
JESSOP HOSPITAL FOR WOMEN, Sheffield.—House Surgeon, unmarried. Salary £50 per annum, with board, lodging and washing.
METROPOLITAN DAIRYMEN'S SOCIETY, 191, Fleet-street, E.C.—Analyst.
LEICESTER INFIRMARY.—Assistant House Surgeon for one year. Salary £80 per annum, with board, apartments and washing.
NORTH-WEST LONDON HOSPITAL, Kentish-town-road. — Assistant Physician.
ROYAL INFIRMARY, Bristol.—Honorary Assistant Physician.
ROYAL VICTORIA HOSPITAL, Bournemouth.—Ophthalmic Surgeon.
ROYAL VICTORIA HOSPITAL, Bournemouth.—House Surgeon and Secretary. Salary £100 per annum with board.
SEDBERGH UNION.—Medical Officer and Public Vaccinator for the Parish of Dent. Salary £50 per annum, exclusive of certain usual fees. Apply to the Clerk to the Guardians, Sedbergh, Yorkshire.
ST. ALBANS HOSPITAL AND DISPENSARY.—Dispenser. Salary £45 per annum.
ST. GEORGE'S HOSPITAL, London.—Visiting Apothecary.
ST. LUKE'S HOSPITAL, LONDON, E.C.—Clinical Assistant for six months, board and residence provided.
ST. PANCRAS AND NORTHERN DISPENSARY.—Surgeon, on the Staff of Honorary Medical Officers.
STOCKTON-ON-TEES HOSPITAL AND DISPENSARY.—House Surgeon, non-resident; salary £200 per annum.
UNIVERSITY COLLEGE, Bristol.—Professorship of Anatomy.
UNIVERSITY COLLEGE, Bristol.—Two Demonstratorships of Anatomy.
UNIVERSITY COLLEGE, London.—Dental Surgeon.

Births, Marriages and Deaths.

BIRTHS.

BEECHAM.—On May 3rd, at Hanger-lane, Ealing, the wife of William Beecham, L.R.C.P., of a daughter.
BEALE.—On May 7th, at Grosvenor-street, W., the wife of Peyton T. B. Beale, F.R.C.S., of a daughter.
BROOK.—On May 1st, at James-street, Linco'n, the wife of W. H. B. Brock, M.D. Lond., F.R.C.S., of a daughter.
BURNIE.—On May 5th, at St. Paul's-road, Bradford, the wife of W. Gilchrist Burnie, M.R.C.S., of a son.
MORRISON.—On May 5th, at Duffield, the wife of Robert Morrison, Surgeon &c., of a daughter.
RICHARDSON.—On May 10th, at Benenden, Kent, the wife of J. C. Ryder Richardson, M.B., B.C., M.A., of a son.

MARRIAGES.

DORMAN—SPENCER.—On May 3rd, at St. Stephen's Church, Dublin, Surgeon-Major T. Dorman, Army Medical Staff, to Marie R. Spencer, only daughter of the late M. H. Spencer, Barrie, Ontario.
WESTLAKE—FAWCETT.—On April 26th, at St. Paul's Church, Covent-garden, James Galbraith Westlake, L.R.C.S.I., of Bayswater, to Mary Louisa, younger daughter of Henry Ogborne Fawcett, of King-street, Covent-garden.

DEATHS.

BLICK.—On May 8th, at Islip, Thomas Edward Blick, M.R.C.S., L.S.A., of Islip, Oxon., aged 52. No cards.
BRISCOE.—On May 9th, at East Brook-place, Dover, Henry Briscoe, M.D., half-pay Royal Artillery and late H.M. Inspector of Prisons, aged 74.
COTES.—On May 4th, at Bournemouth, Charles Edward Henry Cotes, B.A., B.C., M.B. Cantab., F.R.C.S. Eng., of 20, Wilton-street, Grosvenor-place, aged 33 years, the younger son of the late Major Charles Cotes, R.A.
NORTHCOTT.—On May 3rd, at Margate, after a few days' illness, Arthur Northcott, M.R.C.S., L.S.A., of Oakdene, Fulham, and 31, Moorgate-street, aged 35 years.
PRICE.—On the 10th inst., at 26, Belsize-road, Hampstead, N.W. (and of 26, Hatton-garden, E.C.), Frederick Sterne Price, L.R.C.S.I., L.R.C.P.I., in his 49th year.
SANDWITH.—On April 28th, at Cairo, of gastro-enteritis, Margaret Lucy, the elder twin daughter of Dr. and Mrs. Sandwith, aged eight months.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages and Deaths.

BOOKS ETC. RECEIVED.

BLACKIE & SON, Old Bailey, London, E.C.
Chemistry for All. By J. Harrison, F.G.S., and R. J. Bailey. 1893. pp. 148. Price 1s. 6d.

BLACK, ADAM & CHAS., London.
Where to Go Abroad; a Guide to the Watering-places and Health Resorts of Europe, the Mediterranean &c. Edited by A. R. Hope Moncrieff. 1893. pp. 466. Price 3s. 6d.

CHURCHILL, J. & A., New Burlington-street, London.
A Treatise, Practical and Theoretic, on Cancers and the Cancer Process. By H. Snow, M.D. Lond. 1893. pp. 384. Price 15s.
The English Baby in India, and How to Rear it. By Mrs. Howard Kingscote. 1893. pp. 184.

CLAUDIUS ASH & SONS, Broad-street, Golden-square, London.
Notes on Anæsthetics in Dental Surgery. By A. S. Underwood, M.R.C.S., L.D.S., and C. C. Braine, F.R.C.S. Second Edition. 1893. pp. 166.

GRIFFIN, CHAS., & Co., Exeter-street, Strand, London.
A Treatise on Ruptures. By J. F. C. H. Macready, F.R.C.S. Illustrated. 1893. pp. 442.
Forensic Medicine and Toxicology. By J. D. Mann, M.D., F.R.C.P. 1893. pp. 639.

LAMERTIN, HENRI, Bruxelles.
Hôpital Saint-Jean. Observations Médicales recueillies dans le Service de M. le Dr. Destrée. 1892. pp. 71.

LEA BROTHERS & Co., Philadelphia.
Human Monstrosities. By B. C. Hirst, M.D., and G. A. Piersol, M.D. Part IV. Illustrated. 1893.
A Treatise on Nervous and Mental Diseases. By Landon C. Gray, M.D. Illustrated. 1893. pp. 687.

LEWIS, H. K., Gower-street, London, W.C.
Accidents and Emergencies. By C. W. Dulles, M.D. Fourth Edition. Illustrated. 1893. pp. 154. Price 3s.

LONGMANS, GREEN & Co., London.
Report of a Committee appointed by the Clinical Society of London on Periods of Incubation and Contagiousness of certain Infectious Diseases. Supplement to Vol. XXV. 1892. pp. 225.
Essays on Rural Hygiene. By G. V. Poore, M.D., F.R.C.P. 1893. pp. 321. Price 6s. 6d.

MACMILLAN & Co., London.
The Soil in relation to Health. By H. A. Miers, F.G.S., F.C.S., and R. Crosskey, M.A., D.P.H. Illustrated. 1893. pp. 135.

OFFICES OF THE CHEMIST AND DRUGGIST, Cannon-street, London.
A Complete Guide to the Preliminary Examination of the Pharmaceutical Society of Great Britain. By Wm. Dodds. 1893. pp. 86.

PORTER, J. R., Bedford.
Centenary of John Howard, F.R.S., the Prison Philanthropist. A Brief Sketch of his Life. By R. E. Roberts. 1892. pp. 60. Price 1s.

RENSHAW, H., Strand, London.
Popular Information concerning Infectious Diseases. By H. Sworder, L.R.C.P. Lond., M.R.C.S. 1893. pp. 82. Price 2s. 6d.

SAUNDERS, W. B., Philadelphia.
A Text-book of the Theory and Practice of Medicine, by American Teachers. Edited by Wm. Pepper, M.D., LL.D. Vol. I. Illustrated. 1893. pp. 909.

SIMPKIN, MARSHALL & Co., London.
Mr. W. E. Gladstone: a Life Misspent. A Series of Letters to and on the above. By * * *. 1893. pp. 283. Price 5s.

SMITH, ELDER & Co., Waterloo-place, London.
Vertebrate Embryology: a Text-book for Students and Practitioners. By A. M. Marshall, M.D., D.Sc., F.R.S. 1893. pp. 640.
A Treatise on the Science and Practice of Midwifery. By W. S. Playfair, M.D., LL.D., F.R.C.P. Vols. I. and II. Eighth Edition. 1893.

VOGEL, F. C. W., Leiptig.
Anatomische Experimentelle und Klinische Beiträge zur Pathologie des Kreislaufs. Von H. Curschmann und Andern. 1893.

WOMEN'S EMANCIPATION UNION, Buxton House, Congleton.
Woman Free. By Ellis Ethelmer. 1893. pp. 272. Price 5s.

Notes upon an Outbreak of an unusual form of Skin Disease at the Greenock Parochial Asylum and Poorhouse; by F. A. Elkins, M.B.; reprint (T. W. Danks & Co., London).—The Care of the Sick: Notes on Home Nursing; by A. Kenealy (Allman & Son, London); price 3d.—Le Bacterium Coli dans l'Infection Urinaire; par Dr. J. Renault (Société d'Éditions Scientifiques, Paris, 1893).—Original Investigations in Cattle Diseases in Nebraska—Southern Cattle Plague; third edition; by F. S. Billings; Animal Disease Series, No. V. (State Journal Company, Printers, Lincoln, Nebraska), 1893.—The Quarterly Journal of Microscopical Science, April, 1893 (J. & A. Churchill, London), price 10s.—Transactions of the American Pediatric Society, Fourth Session, May, 1892; Vol. IV.; reprint (Bailey and Fairchild, printers, 1893).—The Stœchiological Cure of Consumption and Diseases of the Respiratory Organs; from the Second Edition of Letters to a Patient; by J. F. Churchill, M.D. (D. Stott, Oxford-street, London, 1893), price 6d.—The Electric Light Current in Medicine and Surgery; by W. Scheppegrell, A.M., M.D. (reprint from the New Orleans Medical and Surgical Journal, 1893).—Der Kurort Montecatini und das Natürliche Dampfbad Monsummano; von Dr. W. H. Gilbert (Wilhelm Braumüller, Wien und Leipzig, 1893).—Heart-Failure as a Result of Chronic Alcoholism; by Graham Steele, M.D., F.R.C.P.; reprint (J. Heywood, Manchester, 1893).—The Johns Hopkins Hospital Reports: Report in Pathology, III., Vol. III., Nos. 4, 5, 6 (The Johns Hopkins Press, Baltimore, 1893.)—Medical Epigraphs of the British Museum; by J. Keser, M.D.; reprint (Southwood, Smith & Co., London, 1893).—Magazines for May: Sunday at Home, Leisure Hour, Boy's Own Paper, Boy's Out-door Games and Recreations, Girl's Own Paper, Girl's Own Out-door Book (Religious Tract Society).

Medical Diary for the ensuing Week.

Monday, May 15.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays, at the same hour.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; and on Tuesday, Wednesday, Friday, and Saturday at the same hour.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.; Tuesday, 2.30 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2.30 P.M.; Friday, 2 P.M.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, daily at 10 A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M.; and each day at the same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2 P.M.; Thursday, 2 P.M.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M.; and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.
UNIVERSITY COLLEGE HOSPITAL. Ear and Throat Department, 9 A.M.; Thursday, 9 A.M. Eye Department, 2 P.M.
LONDON POST-GRADUATE COURSE.—Royal London Ophthalmic Hospital: 1 P.M., Mr. A. S. Morton: Affections of Eyelids.—101, Gt. Russell-st.: 8 P.M., Dr. Galloway: Lung Lesions.—Parkes Museum (Margaret-st., W.): 3.30 P.M., Dr. Parkes: House Drainage.

Tuesday, May 16.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Skin Department, 1.45; Saturday, 9.15.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electrotherapeutics, same day, 2 P.M.
LONDON POST-GRADUATE COURSE.—Hospital for Skin Diseases, Blackfriars: 4 P.M., Mr. Jonathan Hutchinson: Family Groups of Skin Diseases.—Bethlem Hospital: 2 P.M., Dr. Percy Smith: Stupor, Catalepsy, Katalonia, Dementia.—101, Gt. Russell-st.: 8 P.M., Dr. Handfield-Jones: Curetting after Abortion and Labour.
PATHOLOGICAL SOCIETY OF LONDON.—8.30 P.M. Annual General Meeting. Reports by the Morbid Growths Committee on Mr. J. Jackson Clarke's specimens and others. Specimens:—Mr. J. J. Clarke: A case of Intra-peritoneal Hernia.—Mr. H. B. Robinson (for Mr. S. F. Wright): Ulcerative Endocarditis with Hæmorrhagic Infarctions in a Calf.—Dr. H. G. Turney (introduced by Mr. S. G. Shattock): Obstruction of the Thoracic Duct by Thrombosis of the Vein at its Orifice.—Dr. H. D Rolleston: Traumatic Dissecting Aneurysm of the Aorta.—Dr. Arnold Chaplin: Lymphadenoma of the Lungs and other organs.—Mr. H. H. Clutton: Two cases of Fracture through the Anatomical Neck of the Humerus. Card Specimens:—Dr. H. D. Rolleston: Aortitis(?) Syphilitic.—Mr. W. G. Spencer: (1) Dermoid Cyst with Infundibular Pedicle from a case of Masked Spina Bifida; (2) Congenital Acromegalis involving the Distal Portion of the Foot and the first and three middle Toes.—Mr. W. H. Battle: (1) Cast from a case of Membranous Urethritis; (2) Primary Sarcoma of the Corpus Cavernosum Penis; (3) Aneurysm of Vertebral Artery in a Child.—Mr. S. G. Shattock: Pharyngeal Diverticulum.

Wednesday, May 17.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1.30 P.M.; Saturdays, 2 P.M. Obstetrical Operations, Thursdays, 2 P.M.
CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M.; Thursday and Saturday, same hour.
ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M. Dental Department, 9.30 A.M. Eye Department, 2 P.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.
LONDON POST-GRADUATE COURSE.—Hospital for Consumption, Brompton: 4 P.M., Dr. R. Maguire: Sputum.—Royal London Ophthalmic Hospital: 8 P.M., Mr. A. Q. Silcock: Choroidal Disease, with illustrative cases.
EPIDEMIOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square).—8 P.M. Dr. William Hunter: The Nature of Infection and Mode of Recovery from Infectious Disease.

Thursday, May 18.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M. Ear and Throat Department, 9 A.M. Eye Department, 2 P.M.
LONDON POST-GRADUATE COURSE.—Hospital for Sick Children, Great Ormond-st.: 4 P.M., Mr. E. Owen: Clubfoot.—National Hospital for the Paralysed and Epileptic: 2 P.M., Dr. Buzzard: The Knee-jerk in Diagnosis.—London Throat Hospital (Gt. Portland-st.): 8 P.M., Mr. G. Stoker: Chronic Glandular Diseases of the Nose and Nasopharynx.—Central London Sick Asylum: 5.30 P.M., Dr. Clifford Allbutt: Clinical Lecture.
HARVEIAN SOCIETY.—8.30 P.M. Clinical Evening. Mr. Keetley: (1) A case illustrating a New Systematic Operation for Imperforate Anus; (2) A case of Chronic (? Gouty) Induration of the Penis in a Gentleman aged thirty-five.—Dr. Maguire: A case of Lead Poisoning.—Mr. D'Arcy Power: A case of Symmetrical Gangrene,—Dr. Scanes Spicer and Mr. Lockwood will also show cases.

Friday, May 19.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Eye Department, 2 P.M.
LONDON POST-GRADUATE COURSE.—Hospital for Consumption, Brompton: 4 P.M., Dr. R. Maguire: Sputum.—Bacteriological Laboratory, King's College: 11 A.M. to 1 P.M., Prof. Crookshank: Anthrax.

Saturday, May 20.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.
LONDON POST-GRADUATE COURSE.—Bethlem Hospital: 11 A.M., Dr. H. Corner: Delusional Insanity, Persecution Massed.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 11th, 1893.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Rainfall.	Remarks at 8.30 A.M.
May 5	30·34	N.W.	64	56	107	70	51	..	Hazy
,, 6	30·41	E.	56	50	109	68	47	..	Bright
,, 7	30·45	N.E.	54	45	104	61	43	..	Cloudy
,, 8	30·39	N.E.	53	46	107	65	43	..	Cloudy
,, 9	30·25	N.E.	56	51	111	71	48	..	Cloudy
,, 10	30·26	N.E.	56	51	116	73	48	..	Bright
,, 11	30·30	N.E.	59	50	112	70	46	..	Bright

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

PUBLISHER'S NOTICE.

IN order to facilitate the work of reference to the volumes of THE LANCET, we have arranged in the future to publish duplicate copies of the Index to each half-yearly volume in a form in which they may be subsequently filed or bound together.

We have had a large number of duplicate copies of the Index to the last half-yearly volume printed, and those of our subscribers who may wish to be supplied with loose copies can obtain the same (without extra charge) on making application to the Publisher of THE LANCET.

"THE CHOLERA EPIDEMIC IN RUSSIA."

DR. FRANK CLEMOW asks us to explain that the charts figured on pp. 1056 and 1057 of our last issue represent the proportions of cases and deaths from cholera per 10,000 inhabitants in the governments of European Russia and the three divisions of Asiatic Russia—viz., the Caucasus, Central Asia and Siberia.

RESPONSIBILITY FOR FEES.

To the Editors of THE LANCET.

SIRS,—A decision just given in the county court here affecting the medical profession cannot be too widely known. I was called in to attend an old gentleman dying in obviously poor circumstances, when it was explained to me that his eldest son, a well-to-do clergyman in Lancashire, would be responsible for my account. I advised that this gentleman should be sent for, but as he was holiday-making on the Continent at the time it was a few weeks before he arrived. When he did arrive I was sent for to meet him, and at an interview had an understanding (distinct enough to me) that he undertook the

responsibility of my charges. On my rendering the account he denied liability on the ground that his father had left no assets. There was a life policy on his father's life for £1500, but he denied that any of it had reached him. I sued him for the amount of my account and the judge decided without calling any evidence that, as there was no written undertaking on the part of the defendant and especially as I had attended the patient for some weeks before I saw the defendant at all, he could not be held liable; but, on the other hand, I have had to pay costs out of all proportion to the sum sued for. I suppose if I had refused to attend the old gentleman on the ground that I saw no prospect of remuneration, and he had died without having had medical attendance, I should have been censured severely by the coroner, whose duty it might have been to have held an inquest in the case. Truly, in such instances, we are on the horns of a dilemma.

I am, Sirs, yours faithfully,

Reading, May 5th, 1892. JAMES DALGLEISH, M.B., C.M.

"A PLEA FOR CONSISTENCY."

A LADY CORRESPONDENT, who has headed her communication as above, writes to point out the inconsistency of those members of her sex who indulge in loud-voiced denunciations of vivisection whilst at the same time they, for the purpose of vain display in the matter of dress, practically uphold the infliction of cruelties at which all humane persons must shudder. The writer instances the use of osprey aigrettes, ostrich tips, sealskins, Persian lambskins or astrakhan, which "adornments," she holds, "are the result of the most monstrous and fiendish cruelty." Whilst we sincerely sympathise with the main argument put forward by our correspondent, we fear she has to a certain extent involuntarily intensified the horror of such practices as she describes. The point to be kept in view is that, whilst for the benefit of humanity and the promotion of science the infliction of a certain amount of pain is unavoidable, the suffering inflicted on animals by the demands of fashion is altogether unwarrantable and inexcusable.

KEROSENE IN DIPHTHERIA.

To the Editors of THE LANCET.

SIRS,—Seeing a description in the French papers of the treatment of diphtheria by petroleum, I think it well worth while recording the following two cases:—

CASE 1.—A boy aged eight had a severe attack of diphtheria in January, 1892. He was treated with tincture of steel internally, but made very little progress for eight days, fresh exudation appearing as soon as the old cleared off. One day he had a fit of whooping-cough, which I always treat with kresaline, and I therefore ordered it for him. His fauces were then one vast cave of very offensive yellow dirty membrane. In two days he was well. This was a very severe case.

CASE 2.—A boy aged seven came home convalescent from scarlet fever, a picture of health, in February, 1893. He gradually failed in health, and when I saw him he had two or three patches of yellow sloughy membrane. I sent him to bed and ordered tincture of perchloride of iron every three hours. Next day he was up, but on the third day he was very ill, the entire fauces being covered with an offensive yellow lining. His parents sent for me, saying he could not live through the night. I found him terribly prostrate and at once filled his room with kerosene vapour. In six hours he was a different child.

Now, two cases are a very small test, but the result was so wonderful that I feel the treatment ought to have a full trial. What kerosene is I do not know, but I use it in a vaporiser, a teaspoonful every three hours, so as to fill the room with the vapour. In whooping-cough I have largely used it with excellent results. I fancy it is a preparation of petroleum or carbolic acid.—Yours truly,

R. G. JACK, L.R.C.S.I., M.R.C.P.I. &c.

Harley-gardens, April 29th, 1893.

THE TRIANGULAR BANDAGE.

A CORRESPONDENT writes to draw attention to a fault not infrequently found in the triangular bandage as at present made—that the base of the bandage invariably comes on the cross of the material, the bandages being made from a square folded across and cut diagonally so as to form two. This base or lower border is weak where most strength is required and when applied readily works loose with any strain, owing to the separation in opposite directions of the woven threads. Our correspondent suggests that in cutting these bandages the selvedge be selected to form the base or lower border. An equal number of bandages can be cut from a piece of material of the same size by dovetailing.

ADVERTISING DENTISTS.

To the Editors of THE LANCET.

SIRS,—The following is one out of several paragraph advertisements appearing in the current number of a suburban paper:—"Mr. ——, Surgeon Dentist, administers gas daily for the painless extraction of teeth. Address, ——." As far as I can make out, the advertiser is not registered; but I have not the current edition of the Medical Register. However, if he is duly qualified, cannot such barefaced advertising be stopped? And if not qualified, how is it that he is allowed not only to administer an anæsthetic, but to proclaim it in a newspaper? I am, Sirs, yours truly,

May 6th, 1893. H. B. X.

EDUCATION OF THE BLIND.

R. M. S.—France has a highly honourable record in the education of the blind. More than a century ago Valentin Haüy took the initiative in this philanthropic work. His pupil was a blind beggar, young and intelligent, and he taught him to decipher the alphabet printed in relief. This was a step fruitful in many ways. Haüy further noted the high musical faculty that is sometimes to be found in the blind, and with immense labour and ingenuity he so taught many of those who were thus gifted and opened up to them a lucrative career. He next founded a school for the blind, which, though not without difficulty, lived through the stormy years of the French Revolution. This he tended and fostered till his death in 1822. Seven years later Louis Braille, a pupil of the Institution Royale of Paris, so improved on Haüy's simple apparatus for reading that the blind from that date may be said to be at no disadvantage in the perusal of printed matter. Quite lately a large association, called after the pioneer of the education of the blind "Association Valentin Haüy," has been founded, and at its headquarters, 14, Avenue de Villars, Paris, may be seen the success with which even the adult blind can be taught.

Persevere.—1. There is, no doubt, as our correspondent points out, a difficulty in using the compound titles of the last medical warrant. Officially they would be used, but socially—at a ball or dinner-party, for instance—it would be impracticable to employ such a cumbrous title as "Brigade-Surgeon-Lieutenant-Colonel." 2. The new warrant does not apply, we understand, to retired medical officers.

DEATH CERTIFICATES IN CASES OF SUDDEN DEATH.

To the Editors of THE LANCET.

SIRS,—I should feel obliged for information on the subject of death certification under the following circumstances.

On the 1st inst. I was called to see a man who had been taken suddenly ill, and on my arrival found life extinct. According to Scotch law the police are informed of sudden deaths, who, after investigating, report to the Procurator Fiscal. The Fiscal, when he has read the police report, if he considers it necessary for the due consideration of the case, may obtain a report from a duly qualified medical man. In this case the Fiscal, on receiving the police report, did not consider it necessary to take further steps, and informed the relatives of the deceased through a police constable that they could go on with the burial. The relatives applied to me for a certificate of death for registration purposes as well as for assurance money, which under the Friendly Society Acts can only be paid on production of extract of certificate obtained from the registrar. What I wish to know is, am I the proper party, without special order from the Fiscal, to certify the cause of death? If so, what form of certificate is to be used? This is the second case that has happened in four months, and I should like to be informed on the subject for future guidance.

I am, Sirs, yours truly,

May 10th, 1893. ENQUIRER.

FEES FOR NOTIFICATION.

To the Editors of THE LANCET.

SIRS,—In remitting the amount of my fees for notification of infectious disease I find the local authority have deducted one fee on the ground that a given case was reported to them by another medical man one day earlier than my own certificate reached them. The case in question I visited in consultation and duly reported the same day. Are they justified in taking this course?—I am, Sirs, yours truly,

May 9th, 1893. L.R.C.P.

CHOLERA IN JAPAN AND THE STRAITS SETTLEMENTS.

ACCORDING to information received at San Francisco by a steamer which left Yokohama on March 30th, cholera had made its appearance at the commercial city and seaport of Nagasaki. Several deaths have occurred at Singapore; and it is stated that cholera is very prevalent at Malacca, as many as 200 cases having occurred in a day.

Mr. T. Wilson Parry (Uxbridge).—We are not aware of the address of the society, but the information could be obtained from the English Chaplain at Davos, Mr. Battersby.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received:—*Newcastle Daily Chronicle, Worcestershire Echo, Le Petit Journal, Coventry Herald, Statesman (Calcutta), Woodford Times, Daily Iowa Capital, Ramsey Courier, Globe Democrat (St. Louis), Local Government Chronicle, The Morning, West Middlesex Standard, Weekly Free Press and Aberdeen Herald, Food and Sanitation, Liverpool Daily Post, Bristol Mercury, Yorkshire Post, Leeds Mercury, Sunday Times, City Press, Mining Journal, Architect, Builder, Hertfordshire Mercury, Local Government Journal, Surrey Advertiser, West Middlesex Advertiser, Huddersfield Chroniele, Hobart Mercury, Sussex News (Brighton), Scotsman, Toronto Empire, Sidmouth Observer, Citizen, Royal Cornwall Gazette, South-Eastern Gazette, Oldham Evening Chronicle, Dundee Courier, Arbroath Herald, Sheffield Independent, Norfolk Daily Standard, Nottingham Daily Express, Sunday Chronicle (Manchester), Dover Standard, British Baker, Fifeshire Journal, Carlisle Express, Galignani's Messenger, Cornish Telegraph, Reading Mercury.*

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Z.—Zenana Medical College, London, Lady Superintendent of.

Letters, each with enclosure, are also acknowledged from—

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